

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO**

PROCEEDING NO. 22I-0471R

IN THE MATTER OF THE REGIONAL TRANSPORTATION DISTRICT'S CORRECTIVE ACTION PLAN REGARDING THE SABLE BOULEVARD AND EXPOSITION AVENUE DERAILMENT, RULE 4 CCR 723-7-7347

**REGIONAL TRANSPORTATION DISTRICT'S RESPONSES TO
COMMISSION'S REQUESTS FOR ADDITIONAL INFORMATION AND
NOTICE OF CORRECTIVE ACTIONS COMPLETED**

The Regional Transportation District ("RTD"), by and through its undersigned counsel, respectfully provides its responses to the Commission's requests for additional information for CAP1-09212022 and CAP2-09212022 within Decision No. C23-0598 and its Notice of Corrective Actions Completed for CAP03-09212022 for the September 21, 2022, light rail vehicle derailment at the Sable Boulevard and Exposition Avenue intersection crossing ("Accident") as follows:

I. BACKGROUND

1. RTD submitted its report of investigation for the Accident and proposed Corrective Action Plans ("CAPs") on November 4, 2022. The investigation found that the most probable and contributing causes of the Accident were:

- Excessive speed
- Inattention by the operator and failure to operate the train in accordance with established rules
- Alignment configuration differences contributed to inattentiveness

- Safety Management System training and oversight immaturity

2. The Commission partially approved CAP01-09212022 effective November 18, 2022 (Decision No. C22-0721), fully approved CAP01-09212022 and CAP02-09212022 effective December 7, 2022 (Decision No. C22-0786), and approved CAP03-09212022 effective March 8, 2023 (Decision No. C23-0160).

3. On September 6, 2023, the Commission approved closure of CAP01-09212022 and CAP02-09212022 (Decision No. C23-0598) and requested additional information to be included with RTD's next notice of CAP completion filing.

II. CAP01-09212022

4. This CAP addressed four corrective measures that were completed prior to service restoration on the closed segment of the R Line on November 29, 2022, and one corrective measure requiring a formal plan for implementation of an Automatic Train Stop ("ATS"). ATS is a system that automatically applies brakes on a train at a sufficient distance from the intersection in certain overspeed situations. RTD hereby provides its responses to the Commission regarding the ATS project funding and implementation.

A. ATS Installation Budget: Has funding for the ATS installation been budgeted and/or appropriated? If not, why not?

5. The ATS project includes system design, equipment design and procurement, construction, installation, and testing phases. Based on currently available information, it is anticipated that the project to install ATS north of the curve on the R Line approaching the Sable Boulevard and Exposition Avenue intersection will be completed by second quarter 2026. System design is currently at 90 percent, with completion anticipated in first quarter 2024.

6. Project costs were included in the 2024 budget adopted by the RTD Board of Directors and appropriated for 2024 on November 28, 2023. Should costs exceed the amount appropriated in

2024, RTD staff will prioritize funding for the project costs from non-safety related 2024 expenditures.

B. ATS Equipment Procurement: When would ordering the necessary equipment for the ATS installation occur?

7. Procurement of ATS equipment will commence after a Notice of Proceed (“NTP”) is issued to the construction contractor. It is currently anticipated that the NTP will be issued in third quarter 2024 and that equipment procurement will be completed by fourth quarter 2025, assuming no supply chain impediments.

III. CAP02-09212022

8. This CAP addresses six corrective actions focused on the human factors that caused the Accident. RTD performed an evaluation of staffing levels and light rail Field Supervisor responsibilities, and the distribution of such supervisors to provide coverage across four light rail work assignment areas across the system. RTD also retained North Highland, an external consultant to provide an assessment of Field Supervisor roles, responsibilities, and assignments as well as to conduct an external benchmarking analysis of comparable transit systems to identify how other agencies approach staffing and coverage. RTD hereby provides its response to the Commission regarding funding and timelines.

A. Hiring Recommendations: Will RTD be moving forward with the hiring recommendations as included in the North Highland report? If not, why not?

9. RTD agrees with the North Highland recommendation to increase staffing levels for both Field Supervisors and Lead Field Supervisors, with an additional 14 Field Supervisors and three Lead Field Supervisors and is moving forward with implementing these recommendations.

B. Funding for Hiring Recommendations: Has RTD budgeted and/or appropriated funding to hire the additional recommended field and lead field supervisors? If not, why not?

10. The request for an additional 14 Field Supervisors and three Lead Field Supervisors was included in the 2024 budget adopted by the RTD Board of Directors and appropriated for 2024 on November 28, 2023. Hiring for these positions will occur over the course of 2024.

IV. CAP03-09212022

11. This CAP addresses RTD's investigation into its inability to recover in-cab video footage from one light rail vehicle (LRV) involved in the Accident. That investigation found that the most probable and contributing causes for the lack of footage were:

- Inadequate procedures for removal and installation of hard disc drive ("HDD") into digital video recorder ("DVR"), as well as information retrieval from the HDD
- Inadequate employee training on data retrieval for HDDs
- Failure to check and monitor that LRV surveillance equipment is functional

Other contributing causes identified were:

- Reliability due to the useful life of the camera and HDD
- Potential tampering with the system

12. The Commission has approved seven corrective actions and the corresponding implementation schedule. On July 27, 2023, RTD provided its notice of completion by March 31, 2023 of the interim corrective action related to conducting an LRV Operator Education Campaign. RTD hereby provides its notice of completion of the interim actions related to wiring of all DVRs to ensure tamper resistance and surveillance system updates due March 31, 2024, evaluation of remote access video retrieval and updates to procedures for handling of cameras, hard drives, and DVRs due September 30, 2023, and training on such procedures due December 31, 2023. RTD

will file its notice of completion of the sole remaining final corrective action related to the development of a formal process to verify and monitor functional surveillance systems are in place consistent with the approved March 31, 2024 deadline.

A. Wire All Current 4C DVR (Completed December 14, 2023, prior to March 31, 2024 CAP deadline)

13. To promote tamper resistance, RTD hardwired all current 4C DVR surveillance systems on all 174 LRVs directly to the power source via remote fuse as of December 14, 2023.

B. Update Surveillance System with New Solid-State Drives (“SSD”) (Completed December 16, 2023, prior to March 31, 2024 CAP deadline)

14. RTD updated the SSDs on all 174 LRVs as of December 16, 2023.

C. Evaluate Potential for Alternative Remote Access to Retrieve Video Files (Completed September 30, 2023)

15. Installation of new camera systems occurred on 29 Denver VIIIs and five SD100s LRVs. Video from these systems wirelessly downloads successfully to an RTD server. RTD has plans for a fleetwide upgrade to new forward-facing, in-cab operator-facing, and 360-degree passenger area views camera system on LRVs to include audio and video capable of remote downloading by June 30, 2027.

D. Update Procedures for Handling of Cameras, Hard Drives, and DVRs (Completed September 30, 2023)

16. Instructions for handling of hard drives that are involved in event investigations have been developed and communicated to the employees responsible for handling cameras, hard drives, and DVRs. A key change in the instructions is the addition of an evidence preservation process to allow for further investigation and troubleshooting of the associated equipment before it is released back for normal use.

**E. Training on Procedures for Handling of Cameras, Hard Drives, and DVRs
(Completed by December 31, 2023)**

17. Training of all Transit Police Video Investigations employees responsible for the above updated procedures was completed. This included training on new inspection, incident logging, and reporting procedures for failed LRV hard drives.

V. CONCLUSION

18. RTD hereby provides its responses to the Commission's requests for additional information and notice of completion of five interim corrective actions by all approved deadlines. RTD remains committed to completing the final outstanding CAP measure for the Accident. Notice of completion of the remaining corrective action for CAP03-09212022 will be filed with the Commission upon completion consistent with the approved implementation schedule.

Respectfully submitted this 6th day of February, 2024.

Regional Transportation District

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