

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Consumer Protection and Safety Division
Rail Transit Safety Section

Resolution ST-100
November 6, 2008

RESOLUTION

RESOLUTION ST-100 GRANTING LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY (LACMTA) A TEMPORARY VARIANCE FROM GENERAL ORDER 143-B, SECTION 9.06 c (1) CLEARANCES.

SUMMARY

This resolution grants Los Angeles County Metropolitan Transportation Authority's (LACMTA) request for a six month variance to General Order (GO) 143-B, Section No. 9.06 c (1) Side Clearance requirements for the Pasadena Gold Line (PGL) station platforms. This resolution allows LACMTA to install Between-Car-Barriers (BCB) on the station platform edges as a six-month demonstration project designed to determine the safety of a platform based BCB system for PGL.

The Federal Americans with Disabilities Act (42 U.S.C. § 12131 et seq.) and the Federal Transit Administration (49 CFR Parts 38.63 & 38.85) require transit agencies to take steps to ensure that visually impaired patrons do not fall from the elevated platform to the trackway below in the space between the light rail vehicles of a train. The resolution requires that LACMTA provide a report to Rail Transit and Crossing Branch staff (staff) on the effectiveness and safety impacts of the BCB demonstration project. LACMTA may subsequently request a permanent variance for the BCBs if the demonstration project proves them to be safe and effective.

BACKGROUND

By a letter dated August 7, 2008, LACMTA requested a six month variance to GO 143-B, Section 9.06 c (1) to allow it to conduct a demonstration project designed to provide the transit agency with results of the BCB testing program to determine the program's safety. The letter requests a

variance, specifically for the PGL station platforms, from the minimum thirty (30) inch side clearance requirements for the installation of the BCBs.

Title 49 CFR Pt. 38.85 provides in pertinent part:

where vehicles operate in a high-platform, level-boarding mode, devices or systems shall be provided to prevent, deter or warn individuals from inadvertently stepping off the platform between cars. Appropriate devices include, but are not limited to, pantograph gates, chains, motion detectors or other suitable devices.

LACMTA intends to install the BCB at the edge of the station platforms so as to prevent patrons from falling from the elevated platform between the cars at station stops.

GO 143-B, Safety Rules and Regulations Governing Light Rail Transit, Section 9.06 states:

CLEARANCES. c. The minimum side clearance to obstructions higher than eight (8) inches above top-of-rail and the clearances between LRVs and streetcars located on parallel tracks used exclusively for light rail transit operations shall be governed by the following requirements:

(1) on station platforms, in yards and along shop aisles, and other locations, including emergency walkways, where passengers, employees, or other persons are permitted or required to be while trains are in motion, the minimum clearances shall be thirty (30) inches...

DISCUSSION

LACMTA rail operations consist of the LACMTA Red, Blue, Green, and Gold Lines. The LACMTA rail system carries an average of 310,000 passengers per day. LACMTA is proposing to install BCB at the PGL light rail stations to conduct a six month demonstration project to test the safety of BCBs in preventing patrons from falling from platforms to the trackway

below at spaces between the trains vehicles at the edge of the PGL station platforms. The proposed BCBs will obstruct the 30-inch side clearance required by Section 9.06 (c) (1) of GO 143-B.

LACMTA's request letter, dated August 7, 2008, specified that the demonstration project will include temporary changes to LACMTA's operating procedures for the PGL in addition to the installation of flexible platform based safety delineators or bollards. The proposed project includes the following elements:

- a) The demonstration project shall be restricted to only the operating portion of the PGL.
- b) PGL light rail vehicles (LRVs) within the current LACMTA Rail system that have existing car-mounted BCB protection will continue to use the car mounted BCB throughout the demonstration period.
- c) PGL LRVs without car-mounted BCB protection shall continue to have personnel on-board providing BCB protection for the first thirty (30) days of the demonstration project.
- d) Platform-based BCB protection will be provided only for PGL two-car trains during the demonstration period and use of three-car trains shall be limited to LRVs with existing car-mounted BCB protection.

The area intended to be protected by the proposed new BCB design is a standardized car-length common to all existing PGL LRV models, i.e.,

the open area between the anticlimbers of the rear of the lead car and the front of the trailing car and the tapered or curved area from the anticlimber to the straight side of each facing LRV car body. The proposed BCBs shall be high enough to avoid tripping hazards by remaining above the knee level of the average passenger and shall bend in any direction. There will be two (2) sets of bollards at each station with one (1) group per active platform side.

Procedures for platform berthing shall be modified to have trains berth at a specified location at the far end of every platform except at the terminals:

Trains will berth so that the trailing car will be at the departing end of the platform to enable Train to Wayside Communication (TWC) use at the terminals. Additional markers at the same elevation as the Train Operator will be installed to allow use of the side cab window to accurately berth the train. The delineators will be recessed to prevent tripping hazards associated with their bases. The demonstration test procedure is subject to change based on comments and direction of reviewing agencies.

A Hazardous Analysis Report including the following elements shall be developed and shared with staff:

- a) Preventive Maintenance plan for bollards (including trending of commonly damaged bollards);
- b) Bollard repair priority / time frame (work-order priority);
- c) Operational procedures for the incorrect LRV berth (action taken when LRV is not within tolerance);
- d) Operational Procedures during the Single Track LRV operation (entering the station opposite than normal);
- e) Operational Procedures for LRV operation when bollards are damaged;
- f) Proper LRV berth SOP training for operator;
- g) Training of personnel to monitor the proper LRV berth compliance;
- h) Test plan (specification of sample size, criteria and methodology for evaluating the success of properly berthed LRVs); and
- i) General specifications of the bollards (force associated with moving, final height, distance apart, force to compress the entire row, etc).

Staff shall review and provide comments on LACMTA's test procedure and results during the demonstration project. Upon the successful completion of the project, LACMTA may subsequently, as appropriate, request the variance be made permanent system wide station platforms.

LACMTA presented the BCB design to staff during a meeting on July 9, 2008. Staff evaluated the design and raised several operations and safety issues during the meeting. Subsequently, in a letter to LACMTA dated July 16, 2008, staff outlined those concerns and requested LACMTA supply additional information. LACMTA responded to staff's safety concerns in the letter requesting the variance dated August 7, 2008, and has indicated that it will address staff's operations and safety concerns. LACMTA has agreed to supply staff with the requested additional information prior to implementation of its BCB demonstration project.

Staff has reviewed LACMTA's request and believes that granting the temporary variance will not have an adverse effect on system safety. Staff suggests that the resolution should be granted with the following conditions:

1. The variance shall be temporary for a limited period of six (6) months;
2. During this six-month test/demonstration period, LACMTA shall install two (2) sets BCB units longitudinally at the edge of each PGL rail station platform. The location of the BCBs will be based on the PGL standard 2-car train's standard berthing location. The BCB shall be installed in the open area between the anti-climbers on the 1st and 2nd cars of the train;
3. During the six-month test/demonstration period, LACMTA shall continue to research BCB alternative designs that do not encroach or infringe on GO143-B clearance requirements. Alternative designs should include Car-borne BCB designs and other designs that allow for 30-inch dynamic envelope clearance. LACMTA shall submit a report to staff detailing the alternatives studied and justifying its preferred solution; and

4. Prior to installing any BCBs, LACMTA shall submit a BCB test procedure for staff approval that, at a minimum, include:
 - a) The description of “random train” monitoring procedure;
 - b) The minimum number of weekly trains that will be monitored;
 - c) The time periods during which the trains will be monitored;
 - d) The number of trains evaluated at each station;
 - e) A process which provides staff the opportunity to timely comment and participate in the BCB testing and monitoring;
 - f) The testing and monitoring of the BCB demonstration project during normal PGL operation to cover the peak and off-peak periods; and
 - g) The gathering of data from a test sample of a minimum of 500 trains by the end of test period.

5. The following observations shall be included as part of the test, which shall be recorded on data sheets:
 - a) Data showing the distance between BCBs and the corresponding LRV during train stops;
 - b) Data showing any obstruction to the movements of patrons on station platforms created by the BCB units;
 - c) Data concerning the number of train operators who comply, and the number who fail to comply, with the established train berthing procedures; and
 - d) Data establishing the number of incidents, with detailed descriptions of their locations, where BCB units presented a potential hazard such as a tripping hazard or a hazard created by the loss of one or more bollards through damage or acts of vandalism, etc.

6. Within 30 days after the test, LACMTA shall provide a report to staff on the effectiveness and safety impacts of the BCB Demonstration Project.

NOTICE

On September 12, 2008 LACMTA's exemption request was published on the Commission's Daily Calendar.

PROTESTS

The notice was published in the Daily Calendar until October 16, 2008. On October 14, 2008, staff received a protest on behalf of Christopher Gray, an outside public party. The concerns referenced in the protest were reviewed and addressed by staff and LACMTA. No revisions were made to this resolution in response to the protest.

COMMENTS

This is an uncontested matter in which the resolution grants the relief requested. Accordingly, pursuant to Section 311(g) (2) of the Public Utilities Code and Rule 14.6(c) (2) of the Commission's Rules of Practice and Procedure, the otherwise applicable 30-day period for public review and comment is waived.

FINDINGS

1. LACMTA proposes to temporarily install BCBs along the Pasadena Gold Line light rail station platforms in an attempt to comply with Federal Americans with Disabilities Act (42 U.S.C. § 12131 et seq.) requirements imposed on transit systems under 49 CFR 38.85.
2. LACMTA contends that its BCBs will significantly mitigate the hazard for visually impaired patrons of falling off the station platform in the space between two PGL LRVs in a train.
3. By a letter dated August 7, 2008, LACMTA requests a six-month variance to the 30-inch side clearance requirement of GO 143-B, Section 9.06 c (1) to conduct a demonstration project to determine the safety and efficacy of a platform based BCB system for PGL.

4. Staff will have input into and will evaluate the BCBs during this testing/demonstration period.
5. LACMTA will submit additional information to staff as staff requests, including BCB Maintenance plans, Light Rail Operations Standard Operating Procedure (SOP) updates, Gold Line BCB Training, Gold Line Berthing Performance Report, CCTV Observation, BCB designs and alternative BCB design reports.
6. LACMTA presented the BCB design to staff during a meeting on July 9, 2008. Staff evaluated the design and raised several operations and safety issues during the meeting. In its letter dated July 16, 2008, staff requested additional information on those matters. LACMTA responded to staff's request in their letter dated August 7, 2008, and indicated that LACMTA will provide the additional information requested by staff before commencement of the BCB testing/demonstration project.
7. During the public comment period, staff received a protest from an outside public party. The protest concerns were reviewed and addressed. No revisions were made to this resolution in response to the protest.
8. Granting the temporary variance for a six-month period will not have a significant adverse effect on system safety.

THEREFORE, IT IS ORDERED THAT:

1. LACMTA's request, dated August 7, 2008, for a six-month variance to General Order (GO) 143-B, Section No. 9.06 c (1) Side Clearance requirements at Pasadena Gold Line (PGL) station platforms for the installation of Between-Car-Barrier (BCB) units is granted as part of a demonstration project to test the safety and efficacy of BCBs designed to meet the requirements of the Americans with Disabilities Act (42 U.S.C. § 12131 et seq.) and 49 CFR Pt. 38.85.

2. The purpose of the BCB demonstration project shall be to prevent visually impaired patrons from falling from the elevated station platforms into the gap between PGL Light Rail Vehicles (LRVs).
3. This variance shall be effective for six (6) months from today.
4. LACMTA shall install two (2) sets of BCB units longitudinally at the edge of each PGL light rail station. The BCBs shall be placed at a 2-car train's standard berthing location such that the BCB unit will be installed in the open area between the anti-climbers on the 1st and 2nd cars.
5. LACMTA shall continue to research BCB alternative designs that do not encroach or infringe on GO-143B clearance requirements. Designs should include Car-borne BCB designs and other designs that allow for a 30-inch dynamic envelope clearance.
6. Prior to installing any BCBs, LACMTA shall submit a BCB test procedure for staff approval that, at a minimum, shall include:
 - a) A description of the "random train" monitoring procedure.
 - b) The minimum number of weekly trains that will be monitored.
 - c) The time periods during which trains will be monitored.
 - d) The number of trains evaluated at each station.
 - e) A process which provides staff the opportunity to timely comment and participate in the BCB testing and monitoring.
 - f) Staff shall have input into the testing of the BCBs during the entire period of testing and shall continually evaluate the overall performance of the BCB project.
 - g) The testing/demonstration project shall be conducted during normal PGL operations and cover both peak and off-peak periods.
 - h) LACMTA shall gather data for a minimum of 500 trains by the end of test period.

7. The following observations shall be included as part of the test, which will be recorded on data sheets:
 - a) Data showing the distance between BCBs and corresponding LRV during train stops.
 - b) Data showing any obstruction to the movements of patrons on station platforms created by the BCB units.
 - c) Data concerning the number of train operators who comply, and the number who fail to comply, with the established train berthing procedures.
 - d) Data establishing the number incidents, with detailed descriptions of their locations, where BCB units presented a potential hazard such as a tripping hazard or a hazard created by the loss of one or more bollards through damage or acts of vandalism, etc).
8. Within 30 days after the demonstration project ends, LACMTA shall provide a report to staff on the effectiveness and safety impacts of the BCB test. The report shall include an analysis of alternatives to the platform mounted BCB within the GO143-B clearance envelope, as noted in No. 5, above.
9. If at any time during the BCB demonstration project, staff determines that BCBs pose a significant safety hazard, LACMTA shall immediately comply with staff's directions concerning individual BCBs or the entire BCB project.

I certify that this resolution was adopted by the Public Utilities Commission at its regular meeting held on November 6, 2008. The following Commissioners voting favorably thereon:

/s/ PAUL CLANON

PAUL CLANON
Executive Director

MICHAEL R. PEEVEY
President

DIAN M. GRUENEICH

JOHN A. BOHN

RACHELLE B. CHONG

TIMOTHY ALAN SIMON

Commissioners