June 28, 2018 Agenda ID# 16642

TO PARTIES TO RESOLUTION ST-214

This is the Resolution of the Safety and Enforcement Division. It will be on the August 9, 2018, Commission Meeting agenda. The Commission may act then, or it may postpone action until later.

When the Commission acts on the Resolution, it may adopt all or part of it as written, amend or modify it, or set it aside and prepare its own decision. Only when the Commission acts does the resolution become binding on the parties.

Parties may file comments on the Resolution as provided in Article 14, Rule 14.5 of the Commission’s Rules of Practice and Procedure (Rules), accessible on the Commission’s website at [www.cpuc.ca.gov](http://www.cpuc.ca.gov). Opening comments shall not exceed 15 pages. Late-submitted comments or reply comments will not be considered.

An electronic copy of the comments should be submitted to Daniel Kwok (email: Daniel.kwok@cpuc.ca.gov ).

/s/ ELIZAVETA MALASHENKO

ELIVAVETA MALASHENKO, Director

Safety and Enforcement Division

DK3:PD2

**CERTIFICATE OF SERVICE**

I certify that I have by mail this day served a true copy of Draft Resolution ST-214 on all identified parties in this matter as shown on the attached Service List.

Dated June 28, 2018, at San Francisco, California.

 /s/ PATRICK DONNELLY

Patrick Donnelly

**NOTICE**

Parties should notify the Safety and Enforcement Division of any change of address to ensure that they continue to receive documents. You must indicate the Resolution number on which your name appears.

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SED/RTSB/EIM/RNC/DAR/SCA/NST/DK3/PD2 **PROP. RES. Agenda ID #16642**

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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| --- | --- |
| Safety and Enforcement DivisionRail Transit Safety Branch | Resolution ST-214August 9, 2018 |

# RESOLUTION

Resolution ST-214 granting THE Los ANgeles COUNTY METROPOLITAN TRANSPORTATION AUTHORITY A TEMPORARY VARIANCE FROM GENERAL ORDER 143-B, SECTION 9.07 FOR THE INSTALLATION OF A PLATFORM TRACK INTRUSION DETECTION SYSTEM AT THE CHINATOWN STATION

# SUMMARY

This resolution approves the Los Angeles County Metropolitan Transportation Authority request for a temporary variance to General Order 143-B, Section 9.07 High Level Platforms, where a 30” Height x 30” Depth refuge area is required. The Los Angeles County Metropolitan Transportation Authority plans to install a Platform Track Intrusion Detection System within the refuge area of their Gold Line Chinatown Station, as a pilot project to test and evaluate the system’s effectiveness in detecting objects or individuals that fall off the platform area of the station onto the tracks.

# BACKGROUND

The Los Angeles County Metropolitan Transportation Authority (LACMTA or Metro) rail operations consist of the Metro Red, Purple, Blue, Green, Expo, and Gold Lines. LACMTA rail system carries an average of 361,000 passengers per day, with annual ridership of approximately 112 million in 2017.

By a letter dated February 12, 2018, LACMTA requested a variance to General Order (GO) 143-B, Section 9.07, High Level Platforms, requiring a 30” Height (H) x 30” Depth (D) refuge area under the platform edge for the purposes of testing new safety technology. LACMTA indicates that the pilot project will have duration of approximately 28 months.

LACMTA is collaborating with Honeywell Building Solutions, Inc. to implement a Platform Track Intrusion Detection System (PTIDS), which uses a series of radar transmitter and receiver modules arrayed along each side of the track along the platform to detect objects intruding into the right-of-way and alerting the Rail Operations Control Center (ROCC) of intrusion occurrences. The PTIDS installation requires a series of modules to be installed in the refuge area for the entire length of the platform. A relatively short 8-foot segment (at the east end on the north side) of the PTIDS installation will encroach into the designated refuge area and reduce the refuge area in that 8-foot segment to 22”H x 30” D.

LACMTA intends to install the PTIDS pilot project to test and evaluate its efficacy and determine whether there may be any benefit to install PTIDS on a system-wide basis. The project is jointly funded by LACMTA and the Federal Transit Administration.

LACMTA intends to pilot the PTIDS project at three stations, on one side of each station: Track 1 at Metro Blue Line 103rd Street station, AR (Alignment Right) track at Metro Red Line Civic Center station, and Track 1 at Metro Gold Line Chinatown station. In the February 12, 2018, LACMTA variance request letter states that the PTIDS installation will be in compliance with the applicable California Public Utilities Commission (CPUC) GOs at the Blue Line and Red Line stations. The Metro Gold Line Chinatown station PTIDS installation will not be able to comply with the criteria of GO 143-B, Section 9.07, High Level Platforms, requiring a 30”H x 30” D refuge area.

GO 143-B, Safety Rules and Regulations Governing Light Rail Transit, Section 9.07 states:

Where passenger platforms are constructed to the nominal level of the floor of the LRVs operated, the space between the platform edge and the vehicle doorsill shall not be greater than three (3) inches on tangent alignment. A minimum personnel-refuge area measuring thirty (30) inches high and thirty (30) inches deep shall be provided under all high-level platforms. Special purpose platforms (e.g. handicap and crew loading platforms) shall be excluded from this requirement.

Per GO 143-B, Section 1.07 (Exemptions or Modifications), Rail Transit Agencies (RTAs) may request exemptions or modifications from the rules and regulations defined in this GO. Requests must contain a full statement justifying the request. Additionally, RTAs must demonstrate that safety is not compromised by granting the request. Any exemption or modification granted through this Section is limited to the particular case covered by the request.

Due to the existence of a connection box originally built on the North end of the Metro Gold Line Chinatown station on Track 1, the installation of the PTIDS system will intrude into the refuge area for a length of 8 inches, reducing the threshold to enter the refuge area to 22”H instead of the required 30” H.

LACMTA states that the modules must be placed in the refuge area threshold, just under the platform edge, due to performance requirements and the operable effectiveness required of the devices. LACMTA assessed that the reduction in height of the refuge area at Metro Gold Line Chinatown Station is not significant, and the potential benefits of installing the pilot system for research purposes outweigh the risks of the restricted clearance for a limited distance.

LACMTA has recorded that the refuge area was used twice, from 2012 to present, on its heavy and light rail lines. The first incident occurred on the Red Line on June 18, 2012, when a patron fell off the platform and rolled into the refuge area avoiding contact with the train. The incident happened at the Pershing Square Station near mid-platform. The second incident occurred on the Green Line on July 13, 2016, at Harbor Station near mid-platform. The patron was found in the refuge area by a Metro employee performing a ground inspection.

# DISCUSSION

Based on available anthropometrical data, the proposed reduction in height will still allow 97.5 percentile adult human males to be able to roll into the refuge area[[1]](#footnote-1). The 97.5 percentile American male is the accepted standard in the United States for architectural design considerations to accommodate large persons.

Previously approved CPUC Resolution ST-66 for the Chinatown Station allowed for the installation of a 6-inch round pipe in the refuge area. Based on a site survey conducted by staff, the 6-inch round piping is installed more towards the middle of the platform and is not installed in the 8-foot segment at the end of the platform that is the subject of this variance request. Staff has found there is no overlap between the two variances.

Commission staff, along with LACMTA Corporate Safety staff, performed a site survey of the Metro Gold Line Chinatown Station. The drawings and documents submitted by LACMTA describing the station and proposed installation were verified. We also conducted a vehicle cab ride to observe the normal approach speeds for LRVs into the Metro Gold Line Chinatown Station. The LRV is restricted by Automatic Train Protection to 25 MPH just before reaching the station and the operator coasts the train into the platform maintaining a speed of approximately 10 MPH and stops the LRV primarily using regenerative braking, unless the situation necessitates greater braking power.

LACMTA indicates it will advance the project upon authorization of this Resolution, conduct the pilot testing of the system and then evaluate the results and determine whether it will pursue wider deployment of the system at its stations. At the conclusion of the pilot project, LACMTA will either remove the equipment or develop a project for wider deployment and submit a permanent variance request to the Commission.

The Rail Transit Safety Branch (RTSB) staff evaluated this variance request from the vantage point of its impact on public and employee safety. Staff met with LACMTA’s technical staff and examined the equipment and project plans and made site visits to the project stations.

The addition of the equipment for the PTIDS has the potential to enhance the safety of LACMTA’s rail stations by alerting the LACMTA’s ROCC when an intrusion onto the trackway occurs at one of its stations, allowing the ROCC to stop trains before reaching that station. This pilot project will allow LACMTA to test the system to determine if it operates as intended and provides the promised advance warning without resulting in unintended or false alerts. The loss of 8 inches in height for the 8 feet of the platform length, while significant, is not a debilitating loss considering it still would still accommodate the 97.5 percentile American male to access the refuge area. With the pilot duration, evaluation period and follow up activities, staff recommends approval of this Resolution for a period of 36 months. A follow-up report to staff at the conclusion of the project should also be required.

# NOTICE

On June 29, 2018, this Resolution was published on the Commission’s Daily Calendar.

**COMMENTS**

The draft resolution of the Safety and Enforcement Division in this matter was mailed in accordance with Section 311 of the Public Utilities Code and Rule 14.2(d)(1) of the Commission’s Rules of Practice and Procedure. \_\_\_\_comments were received.

**FINDINGS**

1. By a letter dated February 12, 2018, LACMTA requested a variance to the thirty (30) inch by thirty (30) inch refuge area required by GO 143-B, Section 9.07 for the installation of PTIDS on the Gold Line Chinatown Station.
2. LACMTA submitted exhibits of the PTIDS unit to be installed on the Gold Line Chinatown Station. LACMTA’s submittal included a technical summary of the PTIDS components and functions.
3. PTIDS has the potential to prevent accidents by alerting the LACMTA ROCC of trackway intrusions at stations.
4. The loss of 8 inches in height of the refuge area threshold will still allow the 97.5 percentile American male to access the refuge area if needed.
5. The pilot project and evaluation will require a temporary variance with a minimum duration of 36 months.

**THEREFORE, IT IS ORDERED THAT:**

1. The Los Angeles County Metropolitan Transportation Authority request for a variance to General Order 143-B, Section No. 9.07, High Level Platforms, requiring a 30” x 30” refuge area is granted for the Gold Line Chinatown Station as specified in this resolution for a period of 36 months from the effective date of this Resolution.

2. The Los Angeles County Metropolitan Transportation Authority shall provide a written summary of the findings of the pilot project for the Platform Track Intrusion Detection System to the Safety and Enforcement Division staff at the conclusion of the testing period.

1. This resolution is effective today.

I certify that this resolution was adopted by the Public Utilities Commission at its regular meeting held on August 9, 2018. The following Commissioners voting favorably thereon:

Alice Stebbins

Executive Director

1. Based on staff review of Niels Diffrient, Alvin R. Tilley, Joan Bardagiy, Human Scale 4/5/6, MIT Press, 1981. [↑](#footnote-ref-1)