

PROPOSED RESOLUTION

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

RAIL SAFETY DIVISION
RAIL TRANSIT SAFETY BRANCH

Resolution ST-250
May 19, 2022

RESOLUTION

RESOLUTION ST-250 GRANTING
SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY THE
AUTHORITY TO DEVIATE FROM CERTAIN HIGH-LEVEL
PASSENGER PLATFORM PERSONNEL-REFUGE REQUIREMENTS
OF GENERAL ORDER 143-B, SAFETY RULES AND REGULATIONS
GOVERNING LIGHT RAIL TRANSIT, SECTION 9.07 FOR
CONSTRUCTION AND OPERATION OF ITS 4TH AND BRANNAN
STREET STATION OF THE CENTRAL SUBWAY PROJECT

SUMMARY

This resolution grants San Francisco Municipal Transportation Agency's (SFMTA) request for authority to deviate from the high-level passenger platform personnel-refuge requirements of General Order 143-B, Section 9.07 for the construction and operation of its 4th and Brannan Street Station, which is part of SFMTA's ongoing Central Subway Project. The deviation allows for the inclusion of the platform's necessary structural requirements without adversely affecting the safety function of its personnel-refuge area under the platform.

THE PROJECT

The Central Subway Project is an extension of the SFMTA's light rail system in San Francisco, with stations at 4th and Brannan streets, Yerba Buena/Moscone Center, Union Square and Chinatown. The extension is the second phase of SFMTA's Third Street Light Rail Project, with the first phase being completed and opened to the public as the "T" Third Line in 2007. Phase Two of the project

consist of a short surface segment and then a portal to the underground subway portion of the project. SFMTA completed Phase Two-related construction in 2021 and plans to open the extension for service in late 2022. The 4th and Brannan Street Station is on the surface segment of Phase Two.

BACKGROUND OF RESOLUTION ST-57

SFMTA's predecessor, the San Francisco Municipal Railway (Muni), started operations in 1912. As a municipal utility, the Muni was exempt from the jurisdiction of the California Public Utilities Commission. Prior to 1979, Muni operated electric streetcars on at-grade alignments throughout San Francisco. During the 1970s, as part of the Bay Area Rapid Transit (BART) Project and prior to being regulated by the CPUC, Muni designed, and BART built the Muni Metro Subway. During the 1980s and 1990s, Muni expanded its light-rail system to include new surface alignments and adopted a design for its surface high-platform stations consistent with the specifications of its light-rail vehicles (LRVs), which were already in service at that time.

With the adoption of Title 49, Code of Federal Regulations, Part 659, in 1995 and CPUC's General Order 164, in 1996, Muni became subject to CPUC authority as of January 1997. SFMTA was established through Proposition E in 1999. Since then, Muni and the Department of Parking and Traffic consolidated and operated under SFMTA. In essence, Muni became SFMTA.

In 2001, during the final design phase of the Third Street Light Rail project, Phase One, SFMTA design engineers became aware that the design of their high-platforms could not meet the requirements of General Order 143-B, Section 9.07, because they were constructed to the nominal floor level of SFMTA's legacy light rail vehicles purchased prior to CPUC's jurisdiction. In a letter dated May 7, 2001, Muni requested authority to deviate from the said General Order requirements concerning high-level passenger platforms in the design, construction and operation of Phase One of its proposed Third Street light rail line.

General Order 143-B, Section 9.07, requires that a personnel-refuge area, measuring thirty (30) inches high and thirty (30) inches deep be provided under high-level platforms. This under-platform personnel-refuge area provides a safe refuge space for a person who might be trapped on the track by the adjacent high-level platform, as a train or other on-track equipment is approaching. However, due to the constraints placed by the prior construction of SFMTA's existing surface high-platform stations, the Third Street Light Rail engineers were unable to design platforms' heights in compliance with GO 143-B's thirty-inch requirement. As with existing high-platform stations, the engineers proposed a slightly reduced height of twenty-seven (27) inches, tapered to twenty-six (26) inches at the wall, and a slightly expanded depth of thirty-three (33) inches from the outside edge.

After SFMTA's 2001 request, CPUC staff met with SFMTA representatives on several occasions to discuss the matter. At staff's request, SFMTA studied and provided a report on anthropometrical data¹ supporting its position that the personnel refuge space design would be safe. Based on the anthropometrical data and SFMTA's experience with its other high-platform stations, the Commission adopted Resolution (Res.) ST- 57 in 2002, thereby authorizing the 27 to 26-inch by 33-inch refuge area for the high-level platform stations of Phase One of Third Street Light Rail extension only.

BACKGROUND OF 4TH AND BRANNAN STATION

In 2008, SFMTA began its preliminary engineering for the second phase of the Third Street Light Rail Project, known as the Central Subway Project (CSP). The CSP will connect with the existing Third Street Light Rail alignment, or "T" Line, at the intersection of Fourth Street and King Street. The CSP continues at grade for several city-blocks until it goes underground north of the intersection of Fourth Street and Bryant Street. Prior to going underground north of the intersection of Fourth Street and Brannan Street, the extension has one surface station, 4th and Brannan Station, with a high-level platform.²

¹ Anthropometry is the scientific study of the measurements and proportions of the human body.

² See Exhibit 1 and 2 for CSP Project Map and 4th and Brannan Station, respectively.

Although the previously mentioned Res. ST-57 did not apply to stations in the CSP's Phase Two project scope, the CSP engineers used the Res. ST-57's requirements to design and build the 4th and Brannan Station. However, when CSP staff started preparing a request for a new waiver, they found that the as-built 4th and Brannan Station did not meet the CSP's final design and the requirements of Res. ST-57. It was discovered that the contractor, without permission from and knowledge of the CSP staff, built the platform 1.5 inches off from center, so the northbound side has a refuge depth of approximately 34.5 inches, while the southbound side has a depth of approximately 31.5 inches, or 1.5 inches less than Res. ST-57's requirements.

In a waiver request letter to CPUC dated February 3, 2022, the CSP project team stated that after performing all attempts to correct the work in place to conform with Res. ST-57, due to the late stage in the project:

There is nothing more that can be done to correct this non-conformance without tearing down the existing, complete station and replace it with one that is correctly centered between the two tracks with refuge depth of 33 inches on both sides. The cost of such an undertaking would be prohibitive, resulting in years of litigation and extensive further delays in the project's completion. Moreover, SFMTA does not believe that such an endeavor would substantially improve safety based upon the anthropometric data Muni used in its original surface, high-platform design.



Exhibit 1 – Central Subway Project Map



Exhibit 2 – 4th and Brannan Station

INVESTIGATION

On February 3, 2022, SFMTA submitted a waiver requesting a deviation of the General Order rule to allow a personal refuge space at 4th and Brannan Station of twenty-seven (27) inches high and thirty-four and a half (34.5) inches deep at the northbound platform, and twenty-seven (27) inches high and thirty-one and a half (31.5) inches deep at the southbound platform; the height of refuge spaces tapered to no less than twenty-six (26) inches at the wall.

Staff met with SFMTA representatives on several occasions to discuss the matter. At staff's request, SFMTA conducted an analysis on recent anthropometrical data, and then concluded that it supported their position that the personnel-refuge area's critical height and depth of twenty-seven (27) to twenty-six (26) inches by thirty-one and a half (31.5) inches are adequate and safe.

Although CPUC granted SFMTA a deviation to the General Order 143-B requirements in 2002 under Res. ST-57, allowing a twenty-seven (27) by thirty-three (33) inches personnel-refuge area, the 4th and Brannan Station refuge area measures twenty-seven (27) inches by thirty-four and a half (34.5) inches on the northbound side and twenty-seven (27) inches by thirty-one and a half (31.5) inches on the southbound side. The southbound platform's depth is one and half (1.5) inches shorter than the thirty-three (33) inches depth requirement for the refuge area under Res. ST-57.

In the United States, the 97.5th percentile American male is the accepted standard for architectural design consideration to accommodate large persons. From the anthropometric data reviewed by SFMTA and presented to Staff, a male adult in the 97.5th percentile would have a shoulder width of 22.61 inches. The 31.5-inch depth of the refuge area should accommodate a male individual on their hands and knees position.³ If such a male individual were to be lying with their shoulders positioned perpendicular to the ground surface, they would fit well within the available twenty-seven (27) inches of the refuge's height.

³ See Exhibit 3.

Further, the same anthropometric data on buttock-to-knee length indicates that a male adult in the 97.5th percentile would have a measurement of 26.68 inches. If such an individual were to position themselves in the refuge area on their hands and knees, the 27-inch height should be adequate. Equally, if the individual were to be lying on their side with their thighs perpendicular to their shoulders and to the nearest rail, like in a fetal position, they should be able to fit completely in the 31.5-inch depth available under the southbound platform.⁴

According to the data, the vertical and horizontal space available in SFMTA's refuge space on both north and south platforms of 4th and Brannan Station meets the requirements necessary for a 97.5th percentile American male to assume a position on hands and knees within the proposed personnel refuge area. The space available can also accommodate the same male lying on their side with their thighs perpendicular to their shoulders and to the nearest rail. The space available far exceeds that necessary for the same person to assume a prone or supine position.

Staff reviewed SFMTA's anthropometric analysis and compared it with similar gathered information and found the conclusions in SFMTA's analysis to be valid.

Staff also believes the intent of Res. ST-57 requiring additional 3 inches in refuge area's depth was to compensate for the loss in height from thirty (30) to twenty-seven (27) inches, so the cross-sectional area of the refuge space remains closer to that of a 30-inch by 30-inch. The General Order 143-B required platform refuge space dimensions would result in a cross-sectional area of 900 square inches, while the Res. ST-57 requirements would result in 874.5 square inches.

According to SFMTA's measurements taken at 18 locations across the southbound platform, 11 locations exceed 874.5 square inches, while 7 locations did not. However, the average cross-sectional area for southbound platform refuge spaces does exceed 874.5 square inches. Staff believes the southbound platform refuge space cross-section area generally met the intent of Res. ST-57.⁵

⁴ See Exhibit 4 for fetal position.

⁵ See Exhibit 5 for SFMTA's measurement table.

Furthermore, in the case where the twenty-seven (27) inches refuge area height is insufficient for a person to fit in at a hands and knees position, that person would likely to extend his/her arms and legs longitudinally and away from the train rather than laterally toward the train. The same person can also choose to be in a fetal or supine position when in distress. Staff does not believe the additional 3 inches in depth would act as an effective replacement for the loss in height at a refuge area.

Staff noted that Section 4, Operating Rules, of SFMTA's Rail Rulebook, dated 2017, contains rules for addressing safe train operation in passenger stations. Staff found the following rules that are pertinent to the operating safety of the requested deviation:

Section 4 - Operating Rules

4.4.1 Employees shall always operate rail vehicles, (except cable cars), with headlights "on".

4.10.1 Operators shall stop at all raised platforms and at all designated stops where passengers are waiting.

4.10.2 Operators shall not exceed 10 MPH when entering or exiting a surface street stop.

4.13.1 Employees shall operate able to stop within the range of vision that is consistent with weather, visibility, road and track conditions, traffic conditions, and signal indications.

4.13.2 Employees shall be prepared AT ALL TIMES to stop short of any person, object or obstruction within range of their vision. When in doubt, STOP and contact Central Control for instructions.

4.13.3 Employees shall always maintain control of the rail vehicle based on current weather, visibility, road or track conditions.

4.13.4 Employees shall operate at the most restrictive speed whenever conflicting maximum speed indications exist.

4.14.1 Table – Maximum Authorized Speed for rail vehicles running through surface stations manually for is 10 mph.

4.18.3 Operators shall stop when they observe anyone walking or standing on the right-of-way.

4.18.11 Operators shall not bypass surface stops without authorization from Central Control.

4.18.12 When authorized by Central Control, operators shall not exceed 10 mph when bypassing surface stops, and shall sound the gong until clear of the station platform.

4.18.15 Operators approaching occupied surface street stops shall sound the gong on approach.

Moreover, from the Definition section of the SFMTA Rulebook, “Restricted Speed” is “the operating speed that will permit stopping within one-half (1/2) the range of vision, short of another train, improperly aligned switch, track defect or obstruction or any hazard. Speed is not to exceed 10 mph.”

On a January 13, 2022, site visit, Staff noted the 4th and Brannan Station does not have track areas that are physically constrained on the opposite side of platform. However, the opposite sides are traffic lanes. In the case when the opposite sides don’t have vehicle traffic and are otherwise under safe conditions, the area can be an alternative means of egress for any person finding him/herself on the track, at the station, as a train approaches.

During the site visit, Staff did a walkaround check of the refuge space at the station. Staff did not note any utility conduits or sharp edges present in the refuge space at the time. However, Staff did observe debris accumulated on the bottom surface of the refuge area. The station was not yet in service.

At the site, Staff took measurements of the southbound platform refuge space at selective locations and found the measurements to be generally consistent with ones provided by SFMTA. The refuge space at the southbound platform was

about twenty-seven (27) inches high at the edge and thirty-one and a half (31.5) inches deep.



Exhibit 3 – Man on his hands and knees position



Exhibit 4 – Man in fetal position

4th & Brannan Platform Refuge Area	Outside Height (in)	Inside Height (in)	Depth(in)	Square inches (in)
General Order Requirement	30	30	30	900
Design / Variance	27	26	33	874.5

Asbuilt Measurements		Southbound						Northbound					
Platform Top Pt. #	Outside Height (in)	Inside Height (in)	Depth (ft)	Depth (in)	Square inches	% from design/variance	Platform Top Pt #	Outside Height (in)	Inside Height (in)	Depth(ft)	Depth(in)	Square inches	% from design/variance
640	27.75	27.75	2.89	34.68	962.37	1.10	681	27.75	27.25	2.89	34.68	1024.14	1.17
641	27.63	27.38	2.62	31.44	864.60	0.99	682	27.75	27.00	2.81	33.72	997.20	1.14
642	27.63	27.25	2.64	31.68	869.22	0.99	683	27.50	27.00	2.85	34.20	1012.46	1.16
643	27.50	27.38	2.69	32.28	885.68	1.01	684	27.50	27.25	2.82	33.84	1003.22	1.15
644	27.75	27.50	2.67	32.04	885.11	1.01	685	27.00	27.00	2.84	34.08	1011.04	1.16
645	27.63	27.50	2.64	31.68	873.18	1.00	686	27.75	26.50	2.84	34.08	1013.53	1.16
646	27.50	27.75	2.62	31.44	868.53	0.99	687	27.00	26.75	2.88	34.56	1028.16	1.18
647	27.63	27.50	2.62	31.44	866.57	0.99	688	27.25	26.75	2.88	34.56	1029.96	1.18
648	27.63	27.50	2.68	32.16	886.41	1.01	689	27.00	26.83	2.83	33.96	1013.14	1.16
649	27.75	27.50	2.71	32.52	898.37	1.03	690	27.25	27.00	2.86	34.32	1025.67	1.17
650	27.50	27.75	2.61	31.32	865.22	0.99	691	27.00	26.25	2.87	34.44	1030.33	1.18
651	27.63	27.50	2.68	32.16	886.41	1.01	692	26.75	26.25	2.86	34.32	1027.81	1.18
652	27.50	27.75	2.68	32.16	888.42	1.02	693	27.00	26.75	2.87	34.44	1033.20	1.18
653	27.50	27.50	2.68	32.16	884.40	1.01	694	27.00	27.13	2.85	34.20	1027.43	1.17
654	27.50	27.50	2.70	32.40	891.00	1.02	695	27.25	27.25	2.81	33.72	1014.76	1.16
655	27.50	27.50	2.66	31.92	877.80	1.00	696	27.00	27.33	2.84	34.08	1026.66	1.17
656	27.50	27.50	2.65	31.80	874.50	1.00	697	27.38	27.33	2.82	33.84	1021.37	1.17
657	27.63	27.50	2.63	31.56	869.87	0.99	698	27.88	27.25	2.90	34.80	1052.52	1.20
Average	27.58	27.51	2.66	31.89	878.55	1.00	Average	27.28	26.94	2.85	34.21	1021.81	1.17

Outlier not included in average

Exhibit 5 – 4th and Brannan Station Refuge Area Measurements by SFMTA

DISCUSSION

After a site visit and review of SFMTA’s analysis, Staff agrees that the requested deviation should be approved. Based on the available anthropometrical data, a twenty-seven (27) inches high refuge area should provide minimal but adequate space and would allow the majority of the general public, in an emergency, to crawl on their hands and knees under the proposed passenger-platform. This would provide a place of safe refuge, on the platform side of the track, from an approaching train or other on-rail equipment. A person too large to crawl on their hands and knees could roll into the personnel refuge area in the event of an emergency.

Staff are however concerned that the surface conditions of the top and bottom of the refuge space would be critical to a person’s prompt emergency entry into that area. The proposed twenty-seven (27) inch height is 10 percent less than the thirty (30) inch height required by General Order 143-B. With the reduced height, the probability of a person’s body or clothing coming into contact with the upper surface of the refuge space is considerably increased. A smooth, snag free surface is necessary to allow a person to quickly enter the refuge area. Any wire, nails, bolts, rough concrete, or other materials protruding from the concrete

surface could easily snag a person or a person's clothing and impede their entrance into the space.

The bottom surface of the refuge area is similarly critical to the safety of a person entering that space in an emergency. Any rough or sharp protrusions or accumulations of debris on the bottom surface of the refuge area could similarly impede a person's prompt entrance into the space.

Staff also concluded that the cross-sectional area of the personnel-refuge space, while adequate, is minimal. Any addition of electrical conduits, boxes or fixtures or the installation of water lines, drains or plumbing fixtures or other materials or equipment within that personnel-refuge area would adversely affect its safe use.

The SFMTA Rail Rule Book, Section 4, Operating Rules, includes rules that focus on operating trains safely in station areas and specifically at high platform stations. Those rules include requirements for train operators to make full stops at stations or limit train speeds when passing through stations, sounding audible warnings and being alert for pedestrians on or near the tracks at stations.

NOTICE

On April 7, 2022, this Resolution was published on the Commission's Daily Calendar.

COMMENTS

The draft resolution of the Rail Safety 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.

No comments were received.

FINDINGS

1. On February 3, 2022, SFMTA submitted a request to deviate from certain requirements from the General Order 143-B, Section 9.07, concerning the dimensions of high-level passenger platforms personnel-refuge area. The rule requires such a personnel-refuge area to be at minimum thirty (30) inches high and thirty (30) inches deep. This request asks the Commission to allow the construction and operation of the personnel-refuge area at the SFMTA Central Subway Project's 4th and Brannan Station that is twenty-seven (27) high at the edge and taper to twenty-six (26) inches at the inside wall, and thirty-four and a half (34.5) inches deep at the northbound platform; twenty-seven (27) inches high at the edge and taper to twenty-six (26) inches at the inside wall, and thirty-one and a half (31.5) inches deep at the southbound platform. The station is already built but is not yet in service at the time of submitting this request.
2. Prior to coming under the Commission's jurisdiction, SFMTA had designed and constructed reinforced concrete, high-level passenger platforms, to the nominal level of the floors on its legacy light rail vehicles. Those platforms are in the subways and at other surface locations on its light rail system. The personnel-refuge areas under those platforms are built similarly to 4th and Brannan Station.
3. In 2002, the Commission approved Resolution ST-57, authorizing SFMTA to deviate from GO 143-B, Section 9.07, to design and construct personnel-refuge area under platforms at a height of twenty-seven (27) inches at the outside edge of the platforms and tapered to no less than twenty-six (26) inches at the inside wall of the refuge space, and thirty-three (33) inches deep from inside wall to edge of platform. Resolution ST-57 only grants deviation to the surface high-level platform stations within the Phase One of Third Street Light Rail Project scope. Since the Central Subway Project is Phase Two of the Third Street Light Rail Project, Res. ST-57 provisions do not apply.
4. Staff believes the intent of Res. ST-57 in requiring an additional three (3) inches in personnel-refuge area's depths then was to compensate for the loss

in height from thirty (30) to twenty-seven (27) inches, so that the cross-sectional area of the refuge space remains almost the same.

5. Staff does not see any issues in extending the same deviation from Res. ST-57 regarding the personnel refuge space height of twenty-seven (27) inches at the outside edge of the platforms and tapered to no less than twenty-six (26) inches at the inside wall of the space, at the requested 4th and Brannan Station. The height of the subject as-built refuge spaces was measured at twenty-seven (27) inches and tapered to no less than twenty-six (26) inches.
6. At the 4th and Brannan Station, the personnel refuge area under the high-level platforms were designed to be thirty-three (33) inches deep for both the northbound and southbound platform. Due to a construction oversight, SFMTA's contractor built the 4th and Brannan Station platforms at 1.5 inches off-center, resulting in northbound platform having a refuge space of thirty-four and a half (34.5) inches deep, while leaving southbound platform a thirty-one and a half (31.5) inches deep refuge space. Although the northbound platform has no issue meeting the refuge area depth per Res. ST-57, the southbound platform was 1.5 inches short. SFMTA indicated the only way to correct the non-conformance was to demolish and reconstruct the station, which would pose significant burden to the Project.
7. Although the southbound platform personnel refuge area depth did not meet Res. ST-57's required thirty (33) inches, Staff consider that the overall cross-sectional area of the 4th and Brannan Station refuge space generally meets the intent of Res. ST-57, having a cross-sectional refuge area no less than 874.5 square inches.
8. Staff does not believe the additional 3-inch depth acts as an effective replacement for the loss in height at a refuge area, as a person in distress would likely extend his/her limbs longitudinally and away from the train rather than laterally toward the train. Therefore, Staff considers the fact that the 4th and Brannan Station southbound platform lacks 1.5 inches in depth compared to Res. ST-57's specified thirty-three (33) inches requirement to not result in a less safe refuge space.

9. After a review of SFMTA's anthropometric analysis and Rail Rulebook, and a site visit to the subject station, Staff determined the as-is personnel-refuge area at 4th and Brannan Station provides adequate vertical and horizontal space for the general public to crawl or roll into in the event of an emergency, if the Staff's proposed mitigations are adopted.
10. Providing a smooth surface to the entire top and bottom of the refuge areas is critical and necessary to a person's ability to enter the refuge space quickly and safely. Any wire, nails, bolts, rough concrete, sharp projections or accumulations of debris or other material on the top or bottom surfaces of the space could easily snag a person or a person's clothing or otherwise impede their entrance into the personnel-refuge area and should not be allowed.
11. Prior to revenue service, SFMTA should remove the debris found under the 4th and Brannan Station platforms. The areas under the platform should be kept cleared after being in service.
12. The cross-sectional area of the personnel-refuge space proposed by SFMTA is minimal and should not be further reduced. Any addition of electrical conduits, boxes or fixtures or the installation of water lines, drains or plumbing fixtures or other materials or equipment within that space would adversely affect the safe and expedient use of the personnel-refuge area and should not be allowed.
13. SFMTA's current operating rules, Rail Handbook; revised July 2017, Section 4, Operating Rules, provide essential pedestrian protection and should not be modified to reduce that protection.

THEREFORE, IT IS ORDERED THAT:

1. SFMTA's request for authority to deviate from the high-level passenger platform personnel-refuge requirements of General Order 143-B, Section 9.07 for the construction and operation of its 4th and Brannan Station is granted subject to the following conditions:

- a. SFMTA shall use sound operating practices in accordance with its Public Transportation Agency Safety Plan to operate the 4th and Brannan Station.
 - b. Personnel-refuge areas under the high-level passenger platforms shall be at least twenty-seven (27) inches high at the outside edge of the platforms, taper to no less than twenty-six (26) inches high at the inside wall of the refuge space; extend laterally under the platforms not less than thirty-four and a half (34.5) inches from the outside edge at the northbound platform, and thirty-one and a half (31.5) inches from the outside edge at the southbound platform.
 - c. Personnel-refuge areas under the high-level passenger platforms shall have smooth, snag free surfaces on the top and bottom surfaces of the refuge areas, which will not impede a person's ability to quickly enter that emergency space.
 - d. Personnel-refuge areas under the high-level passenger platforms shall be free from the installation of electrical conduits, boxes or fixtures, water lines, drains, plumbing fixtures or other materials or equipment or the accumulation of debris within the designated personnel-refuge area.
 - e. SFMTA shall clear any existing debris under the 4th and Brannan Station platforms prior to revenue service.
 - f. SFMTA shall maintain and enforce operating rules that, at a minimum, provide the levels of pedestrian protection established in its Rail Handbook; revised 2017, Section 4, Operating Rules.
 - g. SFMTA shall submit the Safety Certification Verification Report to CPUC Staff at the project completion.
2. Authority granted by this Resolution to deviate from the high-level passenger platform personnel-refuge requirements of General Order 143-B,

Section 9.07 is limited to the construction and operation of SFMTA's 4th and Brannan Station of the Central Subway Project.

This resolution is effective today.

I certify that this resolution was adopted by the Public Utilities Commission at its regular meeting held on May 19, 2022. The following Commissioners voting favorably thereon:

RACHEL PETERSON
Executive Director