

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Safety Division
Rail Engineering Safety Branch

RESOLUTION ST-8
Date April 22, 1992

R E S O L U T I O N

RESOLUTION ST-8. GRANTING THE SANTA CLARA COUNTY
TRANSPORTATION AGENCY AN EXEMPTION FROM GENERAL ORDER
143-A, SECTION 4.12 DEADMAN CONTROL.

SUMMARY

By letter of December 14, 1991, the Santa Clara County Transportation Agency (SCCTA) requests that an exemption to General Order 143-A, Section 4.12 Deadman Control be granted to permit a deadman control similar to that currently employed in existing operating SCCTA light rail vehicles (LRV's) be the standard specified in the current acquisition for 35 new LRV's. This resolution grants SCCTA's request.

BACKGROUND

The deadman control is a safety device that detects the inattention or disability of a train operator.

General Order 143-A Section 4.12 (GO 143-A, 4.12) Deadman Control states:

Every LRV shall be equipped with a safety device that requires the operator's continuous pressure or activity to remain activated. The safety device shall be inter-connected with the propulsion and service braking system in such a manner that should the device fail to detect an appropriate level of activity or pressure exerted by the operator, propulsion power will be interrupted, brakes will be automatically applied in a non-retrievable manner, and the train brought to a stop.

The request for exemption addresses the word "non-retrievable." SCCTA currently operates the LRV's with deadman controls that have retrievable capability. SCCTA is of the opinion that the existing deadman controls provide sufficient safety benefits to meet the intent of GO 143-A, 4.12.

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SCCTA is requesting the exemption to apply to 35 new vehicles that they are in the process of acquiring. SCCTA wants the same operating characteristics for the deadman control on the new vehicles as exists on the current LRV's. Confusion of operators and maintenance personnel are a safety concern in respect to existing and new vehicles operating differently. The request is stated as "...such that the deadman device of new light rail vehicles may be designed and constructed to function identically to the device on the current vehicles."

The existing SCCTA LRV's were built in compliance with the prior General Order No 143 which did not require the "non-retrievable" aspect. The deadman control on the existing SCCTA LRV's currently comply with GO 143-A by virtue of the "grandfather" clause, Section 1.05, which states in part "... these rules ... shall not require ... changes to existing ... vehicles ..." GO 143-A became effective June 7, 1991.

SCCTA has not experienced any accidents or incidents due to the use of the deadman control having the retrievable capability.

The functioning of the SCCTA deadman control first requires a description of the Master Controller. The Master Controller is the accelerator and brake control for the LRV. It is a lever located in front of the operator and is moved forward and backward from a mid-point neutral position. Progressively increasing propulsion power is delivered as the lever is moved forward of the neutral location. Maximum power is at the full forward position. Progressively increasing braking is applied as the lever is pulled rear of the neutral position. Maximum dynamic braking is at the full rear position.

However the Master Controller will not actuate propulsion, nor release the brakes, without appropriate manipulation of the deadman control. The deadman control functions thru a T-handle grip mounted on top of the Master Controller. To permit operation of the LRV, the T-Handle must be rotated counter-clockwise 90 degrees against spring pressure to the normal "operating" position. Concurrently, the Master Controller must be at or moved to the full brake location, and then moved forward to and for propulsion. If the Master Controller is not at or moved to the full brake position and the T-handle rotated to or already in the operate position, the Master Controller can not release the brakes, nor apply propulsion power.

The T-handle is spring-loaded to return to and remain in a "dead" position when not intentionally held. If at any time the T-handle does not remain in the rotated operating position for in excess of approximately 1.5 seconds, the safety aspect is imposed, the propulsion power is cut off, and full dynamic braking is applied.

The "retrievable" quality of the SCCTA deadman control, is that an operator may perform the above described manipulations to reduce braking or restore propulsion power without the necessity of the LRV coming to a complete stop.

DISCUSSION

The staff of the Rail Engineering Safety Branch has reviewed the request for exemption from the requirements of Section 4.12 of General Order 143-A. The staff, accompanied by a representative of the Santa Clara County Transportation Agency has observed and operated the deadman control device on an existing LRV for compliance with the requirements of General Order 143-A Section 4.12. This firsthand knowledge disclosed that movement of the LRV requires the operator's continuous pressure on the deadman control. Train Operating Rule R 4.16 of SCTTA's Operating Rule Book states "Under no circumstances may operators hold the deadman control in the operating position by means other than by their hand." Hence, safety equal to the requirement of General Order 143-A Section 4.12 has been demonstrated.

PROTESTS

No protests or objections have been received.

FINDINGS


1. Santa Clara County Transportation Agency filed a letter on December 14, 1991 requesting an exemption from GO 143-A, 4.12 Deadman Control.
2. The Santa Clara County Transportation Agency plans to purchase 35 new LRV's with a deadman control that will function identically to the device on the current vehicles.
3. The current LRV's were built in compliance with the prior GO 143 which did not require the "non-retrievable" aspect of the current requirement. GO 143-A, 1.05 exempts current vehicles from retrofitting to meet the new requirements.
4. The deadman controls on the current LRV meet the safety intent of GO 143-A, 4.12.

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THEREFORE, IT IS ORDERED that:

The Santa Clara County Transportation Agency (SCCTA) is granted an exemption from the "non-retrievable" requirement of General Order 143-A Section 4.12 so that the deadman control for 35 new light rail vehicles may function identically to the deadman device on the current LRV's.

I hereby certify that this Resolution was adopted by the Public Utilities Commission at its regular meeting on April 22, 1992. The following Commissioners approved it:



NEAL E. SHULMAN
Executive Director

DANIEL Wm. FESSLER
President
JOHN B. OHANIAN
PATRICIA M. ECKERT
NORMAN D. SHUMWAY
Commissioners