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NAY 8 1991

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Investigation on the Commission's own)
motion to evaluate proposed General
Order 143-A, governing safety

1.89-07-003 Order 143-A, governing safety standards for light rail transit.) (Filed July 6, 1989)

the state of the second of THE RESERVE OF THE PROPERTY OF THE PROPERTY OF A CONTROL OF THE PROPERTY OF TH

and the LC, and a sea of the borney and a sufficient of the company of the compan The Commission instituted this proceeding in response to ... a Safety Division proposal to revise General Order (GO) 143, "Rules for the Design, Construction and Operation of Light Rail Transit Systems Including Streetcar Operations." GO 143 was originally adopted in 1978 to implement Public Utilities (PU) Code § 778, requiring the Commission to adopt safety rules and regulations for light rail transit services. These rules were formulated before there were any light rail systems subject to this Commission's jurisdiction operating in California.

Also in 1978, the Legislature enacted PU Code § 99152, granting the Commission jurisdiction over the safety of public transit guideways planned, acquired, or constructed on or after January 1, 1979. As amended in 1986, this statute directs the Commission to develop an oversight program regulating the design, construction, and operation of such guideways. The proposed staff revision of GO 143 is in response to this statutory mandate.

Four public light rail systems within the purview of PU Code § 99152 have been at least partially constructed since the enactment of that statute. The Commission's Safety Division staff met regularly with industry representatives over a three-year period following the 1986 amendment in order to develop a proposal for revising GO 143 in compliance with the new requirement. Interested parties were given an opportunity to contribute their

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suggestions for the proposal, resulting in the initial staff
proposal that is included as Appendix A to the Order Instituting
Investigation (OII).

The OII gave interested parties 45 days to file and serve formal comments on the proposal. Comments were submitted by the Sacramento Regional Transit District; San Francisco Municipal Railway; Santa Clara County Light Rail Division; Southern California Rapid Transit District; Los Angeles County Transportation Commission; San Diego Metropolitan Transit Development Board; San Diego Trolley, Inc.; Amalgamated Transit Union, Local 265; and the United Transportation Union. The Commission staff filed and served a response to the comments on February 20, 1990, including a revised Appendix A that incorporated consideration of these comments.

An administrative law judge (ALJ) was assigned to this proceeding at the conclusion of the comment period. The ALJ held aprehearing conference on March 13, 1990. No hearings were scheduled because they were not deemed to be required, but the ALJ ordered that comments in response to the February 20 staff report be submitted by March 27, 1990, and comments responsive thereto by April 17.

The staff's April 17 response to the March 27 comments included a second revised Appendix A containing cumulative revisions based upon all of the preceding comments. Thus the final version is the product of refinement of the original, and there are few remaining areas of disagreement. Indeed, only three brief comments were received in the final round, and these have been incorporated into the attached Appendix A.

Recognizing that the required oversight program has essentially been developed through the cooperative efforts of Commission staff, industry management, and labor representatives, the Commission need not deliberate extensively on the final rules. The record demonstrates that Commission staff gave careful

consideration to every comment submitted throughout the proceeding, and that each proposed rule is rationally based upon the results of the Commission's investigation. Accordingly, the rules and regulations contained in Appendix A to this decision are adopted by the Commission as GO 143-A, "Safety Rules and Regulations Governing Light-Rail Transit (superseding GO 143 adopted June 27, 1978)."

Pindings of Fact

- 1. GO 143, "Rules for the Design, Construction, and Operation of Light Rail Transit System Including Streetcar Operations," was adopted by the Commission June 27, 1978, effective July 27, 1978, by Decision 89022 in Case 10411. GO 143 was subsequently amended November 6, 1979, effective December 6, 1979, by Resolution RTS-2.
- 2. PU Code § 99152 directs the Commission to develop an oversight program employing safety planning criteria, guidelines, safety standards, and safety procedures to be met by operators in the design, construction and operation of public transit guideways planned, acquired, or constructed on or after January 1, 1979, using existing industry standards where applicable.
- 3. The Commission's Safety Division staff met regularly with industry representatives over a three-year period before this proceeding was instituted, to develop a proposal for a revised GO 143 in compliance with PU Code \$ 99152.
- 4. Notice of the institution of this proceeding was duly published in the Commission's Daily Calendar on July 7, 1989 and served upon interested parties.
- 5. The Safety Division staff developed a revised GO 143 following its meetings with industry representatives.
- 6. In this proceeding interested parties have had a full opportunity to review and comment upon the initial Safety Division proposal, and upon each subsequent version thereof.
- 7. The Safety Division has progressively revised its proposal in response to the comments received in this proceeding

- 3 1 8:1 The Safety Division's revisions to tits proposal are a contraction rationally based upon the comments received from the interested to the parties. The solutions we assumed to the logid mover of solutional rain
- 9. The Safety Division's proposal, including all revisions thereto, incorporate existing industry standards where applicable.
- 10. Appendix A to this decision contains all of the final revisions made by the Safety Division staff, as well as any additional revisions made by the Commission in response to remaining areas of ambiguity, uncertainty, or disagreement.
- 11. Appendix A sets forth an oversight program employing safety planning criteria, guidelines, safety standards, and safety procedures to be met by operators subject to this Commission's jurisdiction, using existing industry standards where applicable, as required by PU Code § 99152-The second of the second of Conclusion of Law

The Commission should adopt Appendix A, superseding GO 143 adopted June 27, 1978. The second of the control of the con

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- 1. Appendix A is hereby adopted by this Commission to supersede General Order 143 adopted June 27, 1978. 1978.
 - 2. This is a final order and the proceeding is closed. This order becomes effective 30 days from today. Dated May 8, 1991, at San Francisco, California

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PATRICIA M. ECKERT

CERTIFY THAT THIS DECISION WAS APPROVED BY THE ABOVE SAND STATE OF COMMISSIONERS SANDOCTO

COMMISSIONERS TODAY

MAN, Exocutive Director

APPENDIX A

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PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA CASTRONAL CONSTRUCTION The second of th en explaination en en en en en en antiqua appopu GENERAL ORDER 143-A (Superseding General Order 143 adopted June 27, 1978) SAFETY RULES AND REGULATIONS GOVERNING LIGHT-RAIL TRANSIT ωĠ Adopted May 8, 1991. Effective June 7, 1991. Decision 91-05-015 in I.89-07-003. . '3 ·阿尔尔斯·赫克特文化 一个位于1947年增加了亚裔基础的 e een en en een een een een een 2000 ander 2000 ander 2002 a STATES OF TAXES inspicindus, andres, and extroposants 165 MISCRICLANSCOR LES CONTRO DESCRIPCION DE L'ALLE CONTROL DE L'ALLE

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GENERAL ORDER 143-A

SAFETY RULES AND REGULATIONS GOVERNING LIGHT-RAIL TRANSIT

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TABLE 1. MAXIMUM PERMITTED SPEEDS FOR LIGHT-RAIL TRANSIT SYSTEMS

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1.01 (Short: Title.) () parting and or negligible and liber bedrapp

These rules and regulations shall be known as "General Order No. 143-A." 1.02 LNV Residents Lung Conductions

1.02 "Authority. The solid includes to be first the the control

Jan Johnson & These rules and regulations are authorized by and implement the provisions of Sections 778, 29047, 30646, 99152, and 100168 of the Public Utilities Code.

1.03 Purpose.

The purpose of these rules and regulations is to establish safety requirements governing the design, construction, operation, and maintenance of light-rail transit systems in the State of California. The safety of patrons, employees, and the public is of primary importance in the application of these regulations.

1.04 Applicability.

These rules and regulations are applicable to light-rail public transit guideways planned, acquired, or constructed on or after January 1, 1979, and to all private light-rail transit systems in accordance with Sections 778 and 99152 of the California Public Utility Code. Light rail transit carriers not subject to the Commission's jurisdiction are encouraged to follow these rules and regulations.

1.05 Not Retroactive.

Unless otherwise specified, these rules and regulations shall not require reconstruction, additions, or changes to existing systems, facilities, and light-rail vehicles in service or advertised for construction prior to the effective date hereof. This section does not apply to maintenance of equipment and facilities.

1.06 Commission May Order Additional Rules.

The Commission may make such further additional rules or changes as necessary for the purpose of safety to employees and the general public.

1.07 Exemptions or Modifications.

Requests for exemptions or modifications from these rules and regulations shall contain a full statement of the

APPENDIX A PAGE 2002 Page

reasons justifying the request and demonstrating that safety is not reduced thereby. Any exemption or modification so granted shall be limited to the particular case covered by the request.

1.08 LRV Equipment and Condition.

Every LRV, as defined in Section 2.09 of these rules and regulations, used in revenue service shall be equipped as required by this General Order. All such LRV equipment shall be maintained in safe proper working condition as required by the carriers approved operating rules and procedures.

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APPENDIXGAMMAA Page 3.5%

2. DEFINITIONS

2001 Automatica Block Signal System. To anagur aparts to about A

A series of consecutive blocks of track over which entry to each block is governed by block signals, cab signals, or both, which are actuated by the presence of an LRV or train or by certain other conditions affecting the use of the block.

2.02 Automatic Train Protection (ATP).

A system for assuring safe train movement by a combination of train detection, separation of trains running on the same track or over interlocked routes, overspeed prevention, and route interlocking.

2.03 Automatic Train Stop (ATS).

A device so designed and installed that, should the operator permit a train to pass a signal indicating "stop", there will be an automatic application of the brakes which cannot be released until the train is brought to a stop.

2.04 Cab Signal System.

A signal system whereby block condition and the prevailing civil speed commands are transmitted and displayed directly within the train cab. The cab signal system may be operated in conjunction with a system of fixed way-side signals or separately.

The second of th

2.05 Carrier.

Unless the context indicates otherwise, "carrier" means a context indicate otherwise, "carrier" means a context indicates otherwise, "carrier" means a context indicat

2.06 Commission.

The Public Utilities Commission of the State of California.

2.07 Fail-safe.

A characteristic of a system which ensures that any malfunction affecting safety will cause the system to revert to a state that is known to be safe.

APPENDIXGANGS.t. Page 4 equal

| 20.8 | Light-rail Transit (LRT). | SAN INTERES | , ', |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------|
| | A mode of urban transportation employing capable of operating on all the alignment described in this General Order. | : classifications | :les |
| 2.09 | Light-rail Vehicles (LRV): | 19、46、60、19、49·49(1) | |
| | A wheeled vehicle, for the conveyance of is electrically propelled and operates up on the alignment classifications describe Order. | passengers, which on a track or rand od in this Genera | ils |
| 2.10 | Operator. The state of the stat | 机动物垫 医乳 医皮上腺病 | |
| | The LRT employee on board the train having immediate control over the movement of the control over the control o | ng direct and entering train. | |
| 2.11 | Public Transit Guideway. | umfil barawandan (j. 111) | 0.9 |
| : | A system of public transportation utilizing vehicles that are physically restricted a movement in a lateral direction. | ng passenger, rom discretionar | . Y |
| 2.12 | Separate Right-of-way. | | |
| 2.13 | A corridor within which LRVs operate apar motor vehicle traffic but may contain loc traffic crossings. Streetcar. | ations of mixed | |
| | An LRV operated in mixed street traffic. | in Carrier (|). S |
| 2.14 | โทรลได้เ รื่องเกิดเกล้า และแพชกซ์เลือกการผิดของโดยมาเข้พกเป็น. | on san onelat Italia suntann | |
| | A single LRV or multiple LRVs combined to unit. | operate as one | |
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| | . | - 00km/s=#2,#82 188 | 2. |
| Service of | రాజక్రి తగ్గా దర్శాగు అంది అన్నారు. ఎక్కువ దినిముకు మంది మంది మంది మంది మంది మంది మంది మంది | lrospanado A ' malfunction co a pento | |

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APPENDIXUACOUN Page: 50000

- 3. EQUIPMENT ON LIGHT-RAIL VEHICLES
- 3.01 Speedometers.

Every LRV shall be equipped with a speedometer installed in such a position so as to be easily seem by the operator.

The speedometer shall indicate the speed in miles per hour with an accuracy of five (5) percent at all times.

Every LRV when operating under conditions which are likely to cause ice, frost, fog, or moisture to collect on the windshield, shall be equipped with window wipers and an electric or mechanically operated device designed to prevent or remove such collection of ice, frost, fog, or moisture.

3.03 Rear Vision Mirrors.

Every LRV operating cab shall be equipped with two (2) rear vision mirrors, one on each side of the vehicle, located so as to allow the operator a view of the rear along both sides of the train for the full length of the train on tangent track.

3.04 Audible Warning Devices.

Every LRV shall be equipped with a bell or horn capable of producing a clearly audible warning measuring at least 75 dBA at a distance of 100 feet from the vehicle. In addition, every LRV operating on separate right-of-way over motor vehicle grade crossings shall be equipped with a horn or whistle capable of producing a clearly audible warning measuring at least 85 dBA at a distance of 100 feet from the LRV.

3.05 Grab Handles.

Every LRV shall be equipped with grab handles, stanchions, or bars for the use of standing passengers and for the use of persons boarding or leaving such vehicles.

3.06 Safety Bars.

Every LRV shall be equipped with a bar made of wood, fiberglass, or metal installed full width in front of the leading wheels of an LRV, or a fender or lifeguard to provide protection against foreign objects being caught under the car body when the LRV or the train is in motion.

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3.07 Blocked Door Operation.

The passenger side doors of every LRV shall be designed to minimize the possibility of persons or objects being caught in them while closing.

3.08 Warning Devices for Stopped Light-rail Vehicles.

Except when LRV operation is completely on exclusive rightof-way, emergency warning devices such as bidirectional
emergency reflective triangles, fusees, red flags and/or
flashlights shall be maintained in a suitable container or
compartment on every LRV.

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3.04 Augable Washing Reviewer

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1.05 Grab Handlore

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BRAKES ON LIGHT-RAIL VEHICLES

4.01 Definitions Used in This Part.

The following definitions apply to words and phrases used in eceleration Rate. this part:

- a. Average Deceleration Rate. The rate obtained by dividing the speed at which the brakes are initiated (brake entry speed) by the elapsed time until no motion is detected. The average deceleration rate does not include operator reaction time. and the second s
 - a makan ikan kangan salam dalam manga b. Jerk. The average rate of change of acceleration or make a line deceleration.

4.02 Braking Systems. The down obtained not we are received available to the second of the second of

Every LRV shall have a service and an emergency braking system. The service braking system shall consist of a combination of dynamic and friction brakes. The emergency braking system shall consist of a combination of the service braking system and independent magnetic track brakes.

4.03 Brake Rates.

Every LRV shall meet or exceed the average deceleration rates shown in Table 4.1 below when tested at the designated brake entry speeds. Tests run at speeds between those designated in the table shall meet the average deceleration rates listed for the next higher brake entry speed.

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TABLE 4.1

The tensor control to another passe the respect granecers at there

| BRAKE(1) ENTRY | AVERAGE | DECELERATION | vate (mphps) |
|--------------------------------------------|------------------------------|---------------------------|---------------------------------------------------------------------|
| SPEED (MPH) | SERVICE BRAKING SYSTEM | DYNAMIC (2) BRAKES CUTOUT | EMERGENCY BRAKING SYSTEM |
| 55 or more 45 35 25 20 or less | 2.7 2.6 2.5 2.3 | 1.9 2.0 2.0 2.1 | . 20.3 240.50 100.62-204.50 100.632.603.552 10.632.603.552 |

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APPENDIX A Page 8 7055

Notes.

- (1) All tests shall be conducted on dry, level, tangent track for all conditions of loading up to the maximum operating loads as established by the Transit Authority. Authority.
- The average deceleration rates, when dynamic brakes are (2) cut out, shall be met by the friction brakes acting alone or in combination with the track brakes. un en groch de een en op en de een de de. Onter en beverde en en de en de en de en de een op de de
- 4.04 Jerk Limit.

The second to the second to the second property of The service braking system shall be jerk limited to minimize injuries to the vehicle occupants. The emergency braking system shall not be jerk limited.

4.05 Spin/Slide Protection.

LRVs equipped with spin/slide protection shall be designed for fail-safe operation so that a system failure will cause for fail-sate operation so that the spin/slide protection to be bypassed.

4.06 Dynamic Brake Failure Indication.

Detectable failures of the dynamic brakes shall be annunciated by visual and audible warning devices.

4.07 Dynamic Brake Failure Procedure.

If a failure of the dynamic braking system is annunciated, the LRV shall be brought to a stop at the earliest possible moment. If determined safe to proceed, the train may then remain in service, at a reduced speed not exceeding 25 mph, until it reaches the end of the line or a repair facility, where the affected car(s) must be repaired or taken out of service.

4.08 Parking Brakes. Chinazan characa characan control control

Every LRV shall be equipped with parking brakes which can be applied without assistance of any electric, hydraulic, pneumatic, or other form of non-mechanical energy. Such brakes shall be adequate to hold the LRV stationary under all-conditions of loading-on any grade on which it is. operated.

4.09 Out-of-Service Interconnect.

The parking brakes shall be designed and constructed so that when the LRV is placed in any out-of-service or lay-up mode, the brakes will be automatically applied to hold the LRV or train stationary under all conditions of loading on any grade on which it may be operated.

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4.10 Door Interlock.

The passenger side door shall be interlocked with the braking and propulsion control systems in such a manner that a stopped LRV cannot start and a LRV in motion will automatically brake if the doors are not closed.

4.11 Wheelchair Lift. The work of the state of the state

LRVs equipped with a wheelchair lift shall be designed and constructed so that the LRV can be moved only when the lift is completely stowed and the lift can be deployed only when the LRV is stopped.

4.12 Deadman Control.

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 interconnected 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 second of th

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APPENDIX ACCOMA

5. LIGHTING ON LIGHT-RAIL VEHICLES

5.01 Headlights. The control of lands to the control of

Every LRV which operates on a separate right-of-way shall be equipped with a headlight or headlights that are capable of revealing a person or motor vehicle in clear weather at a distance of 600 feet. Every LRV which operates on a public street or road shall be equipped with a headlight or headlights that are capable of revealing a person or motor vehicle in clear weather at a distance of 350 feet and shall be designed and adjusted so as not to interfere with the vision of drivers of motor vehicles. Headlights may be dimmed or extinguished under conditions where their use could pose a safety hazard to motorists in adjacent traffic lanes.

5.02 Taillights and Stoplights.

Every LRV shall be equipped with two (2) red taillights at the end of the LRV opposite from the direction of travel and shall emit a red light plainly visible in clear weather from a distance of not less than 500 feet to the rear of the LRV or train. In addition, at least two (2) red stoplights shall be mounted on the end of the LRV with the taillights. Stoplights shall be capable of producing approximately 150 percent of the intensity of the taillights and shall be illuminated whenever any brake except the parking brake is applied.

5.03 Doorway Lights.

Every LRV shall be equipped with lights to illuminate the doorway and adjacent platform or street for the purpose of safe boarding and discharge of passengers.

5.04 Interior Lighting.

Every LRV operating during hours of darkness shall be equipped with lights in the passenger compartment, arranged so as to illuminate the whole interior of the vehicle and in such a manner that windshield reflection will be minimized so as not to interfere with train operation.

5.05 Emergency Lighting.

LRV headlights, taillights, stoplights, interior lights, emergency flashers, and doorway lights sufficient to support safe exiting shall remain functional under emergency power conditions for a minimum of one (1) hour.

APPENDIX A

- 6. CONSTRUCTION REQUIREMENTS FOR LIGHT-RAIL VEHICLES CONTROLLED
- Every LRV shall have installed on each end of the vehicle an anti-climber designed and constructed with projecting steel corrugations that will interlock with a similar device on another LRV in the event of a collision.
- 6.02 Collision or Corner Posts.

Every LRV shall be equipped with collision or cab-end corner posts. The connections of the posts to the supporting structures and the supporting structure itself shall be able to develop the full bending capacity of the collision or corner posts.

6.03 Strength of Major Structural Components.

Every LRV shall be designed and constructed so that all major structural components meet or exceed the following standard:

Under the action of an end compression load equal to twice the unladen car body weight applied longitudinally at the end sills, there shall be no permanent strain in any structural member and there shall be no stress in any such member exceeding the yield strength or yield point of the material.

This standard shall apply for both the conditions of a fully loaded LRV body and an unloaded LRV body.

6.04 Windshields and Windows.

Windshields and windows shall be equipped and constructed as follows:

- a. Every LRV shall be equipped with laminated safety glass windshields. Partitions and windows, other than windshields, shall be equipped with laminated safety glass, shatter-proof, or tempered glazing materials. Windshields or cab side windows shall have functional sun visors, if appropriate to the needs of the operator in relation to the design of the LRV.
- b. All windows, except those entirely within the operator's cab, shall be designed and constructed so as to deter a person's head or arm from being readily extended to the outside from an open window.

APPENDIXANGON Page 112500

6.05 Emergency Exits . Class Tobac 200 Small recognis was though as

Every LRV shall have all doors, except those designated contains a second so exclusively for wheelchair or handicapped use, equipped so that in case of emergency, they can be easily/opened by a passenger by a readily apparent or disclosed means.

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నుకుంటాన్ని మన్ని కుర్మ కుర్మకుడ్డుకుండి ఉన్నకు ఉంది. ఎన్నకు తూర్పాడుకుంటా చిర్మంతున్నారు. ప్రత్యేకుంటా ఉంది. స్థానికి కోరులు ఉంది. మాత్రమత్తున్న కోరుకుంటా ప్రక్టింది. ఎక్కుకుంటా మాత్రమానికి ప్రభావిత్తున్నారు. మాత్రమానికి మాత్రముకుంటా ఎక్కుకుంటా మంత్రముకుంటా ఉంది. ఎక్కుకుంటా మంత్రముకుంటా మం మంత్రముకుంటా మంత్రముకుంటా మంత్రముకుంటా మంత్రముకుంటా మంత్రముకుంటా మంత్రముకుంటా మంత్రముకుంటా మంత్రముకుంటా మంత్రమ

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- 7. OPERATING SPEED AND TRAIN PROTECTION REQUIREMENTS
- 7.01 Basic Speed Rule a responding to the liver and temperate as:

The other provisions of this part notwithstanding, the operator of an LRV shall at all times operate at a safe speed that is consistent with weather, visibility, track conditions, traffic, traffic signal indications, and the indications of ATP systems where used.

7.02 Speed Profile.

LRVs shall be operated at all times within the maximum speed profiles established for the system. Speed limit signs which are visible from the operator's cab shall be posted in advance of critical locations.

7.03 Maximum Speeds. The control of the control of

The maximum speeds permitted on an LRT shall be established in accordance with the requirements presented in Table 1.

7.04 Conditions Restricting Maximum Speed.

Maximum speed shall be restricted over track with opposing traffic when LRV movements are not governed by block signals, cab signals, timetable, train order, current of traffic, or manual block system. In the absence of such control systems LRVs shall operate with caution at a speed prepared to stop within one half the distance of the operator's range of vision but not exceeding twenty-five (25) miles per hour.

7.05 Speed Permitted on Pedestrian Malls.

Maximum LRV speed permitted on a promenade, pedestrian walk, concourse, mall, or plaza, which is closed to motor vehicles, where the pedestrian movement across the tracks is authorized, is twenty (20) miles per hour unless otherwise restricted (see Table 1).

7.06 Train Signal System Standards.

The Signal Manual of Recommended Practices published by the Communication and Signal Division of the Association of American Railroads shall be used as a guide for the design and construction of LRT signal systems. When alternative standards are followed, they shall be specifically noted on the signal plans and specifications submitted to the Commission in accordance with Section 16.03 of this General Order.

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7.07 Crossings of Railroad and LRT At Grade 1 1100 870 DARGED . C

As required by Division 1, Chapter 6 of the State of California Public Utilities Code, the permission of the Commission shall be obtained before any LRT tracks are constructed at grade across any railroad or LRT tracks. movements over alignments 9.04(a) and 9.04(b)(1) at grade across railroad or LRT tracks shall be governed by an interlocking installation. All signal indications and train movements within the interlocking limits shall be recorded by automatic recording apparatus. The provisions of General Order 33-B shall not apply to tracks used exclusively for LRT operations.

7.08 Crossings of Streets and Highways At Grade.

LRT systems which cross streets, roads, and highways at grade shall install and maintain automatic gate crossing signals to control motor vehicle traffic and automatic warning signals to control pedestrian traffic. When LRV operation is upon a street or highway permitting motor vehicle traffic, all intersections shall be controlled by traffic control devices.

The following general orders shall govern the protection and

operation of grade crossings.

General
Order Nos.

Subject

Protection of At Grade Crossings 75-C Rules for Train Occupancy of At Grade Crossings 135 Rules for Exempting Certain At Grade Crossings from Motor Vehicle Stop Requirements 145

7.09 Audible Warning. The control of The LRV operator shall sound an audible warning at public crossings.

· Carolina Slocki Strain and Strain Strain ఆక్కి అదే మండులో కుండా కాటు కాటుకాన్ని హీటామలో ఉండాకాన్ నిర్మాధియాడుకో ప్రేమింద్రమేడి ఉండాని.

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APPENDIX A CONT Page 15

- SPECIAL PROVISIONS FOR HISTORICAL STREETCARS
- Definition of "Historical Streetcar". The property grown 8.01

An LRV or streetcar originally manufactured prior to January 1, 1956, which may not meet all the requirements set forth in this General Order for LRVs.

Application of Previous and Subsequent Parts. 8.02

In addition to the special provisions set forth in this Part, the following requirements specified in these rules and regulations shall apply:

a. All of the following Parts: and regulations shall apply:

- - General Provisions

Definitions 2.

Operating Speed and Train Protection Requirements 7.

9. Right-of-Way Standards
O. Traction Power Requirements 10.

Fire Protection Requirements 11.

Requirements of Safety Sensitive Employees 12.

Operating Rules 13.

Inspections, Tests, and Maintenance 14.

15. Accident Reporting Requirements

- Miscellaneous Reporting Requirements 16.
- b. The following Sub-parts of Parts 3, 4, 5, and 6:
 - restriction of the contract of 3.04 Audible Warning Devices
 - 3.05 Grab Handles

3.06 Safety Bars

- 3.08 Warning Devices for Stopped Light-rail Vehicles
- 4.07 Brake Failure Procedure
- 5.04 Interior Lighting our bear of the management to
- of the cost Emergency Exits the control of the cont
- in estato nova novo retto come a lua parki analia terropata into la liberata 8.03 Service Braking System.

Every historical streetcar shall be equipped with a service braking system adequate to control the movement of and to stop and hold stationary such vehicle in a safe manner under all conditions of loading on any grade on which it is The operated - I have now now to be allow the selection of the selection o

APPENDIX A Page 16

8.04 Stopping Distance. A This STANDARD AND THE TWO AND LATOURS IS

Every historical streetcar shall meet the following maximum stopping distance from an initial speed of 20 miles per hour under all conditions of loading on level; dry track

The State of the Contraction of

Maximum Stopping Distance Teach Town of the Land Teach from the Point of First

If operating during the hours of darkness, every historical streetcar shall be equipped with a headlight that is capable of revealing a person or motor vehicle at a distance of 350 feet in clear weather.

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8.06 Taillights. If operated during the hours of darkness, the historical streetcar must be equipped with a taillight which is visible to the rear from 500 feet in clear weather-Till Med Till selver de die selver Heller des die selver er Di Leiden effektieren bilden er gen Di

8.07 Windshields and Windows.

Every historical streetcar shall be equipped with laminated safety-glass windshields. Windows and other areas fitted with glass shall employ safety-glass, tempered glass, or equivalent glazing material. Clerestory glazing is exempted from this requirement.

8.08 Safe Operating Speeds.

Safe operating speeds for historical streetcars shall be established and enforced consistent with the individual operating and braking characteristics of each class or type of streetcar, the condition of the track over which the streetcars will operate, and the nature of the motor vehicle traffic on streets and roads where streetcar operations will annak ka ngadori Beyortaga be conducted.

8:09 Operating Rules. A like a terminal Labertonia vravg

Prior to historical streetcar operation, rules of operating procedure for such streetcars shall be prepared The rules shall contain a listing of the maximum authorized speeds for each section of right-of-way where historical streetcars will be operated. The rules and operating speeds shall be filed with the Commission for approval pursuant to the provisions of Part 13 of this general order.

b. Semi-inclusive:

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- RIGHT-OF-WAY STANDARDS TANDARDS TANDARDS TO PROBLEM WITH THE CONTROL OF THE CONTR
- 9.01 Track? Requirements : Wind bounders . Since doors

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9.02 Standards for the Installation of Barriers.

When the separate right-of-way of a LRT system occupies the median of a divided arterial highway with fully controlled grade-separated access or is contiguous to such a highway, Caltrans' standard barriers of the following types shall be installed under the conditions indicated:

Distance from Center Line

Distance from Center Line
of Track to Edge of Nearest
Travel Lane on Roadway

36 feet or cless
Teast 32 inches in height
above the croadway.

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up to 45 feet

Greater than 36 feet Rigid concrete barrier as specified above or semiflexible metal barrier (thrie, W. box, or other (third, box, of constitution of comparable beam) sat least to be a constitution of comparable beam) sat least above to the constitution of con

9.03 Installation of Curbs, Fences, and Barriers.

Concrete curbs, fences, or barriers, shall be installed along sections of separate right-of-way of an LRT system when there is a likelihood that motor vehicles or pedestrians may leave the travelled way of any nearby street or highway and encroach onto main track. Survey of the second of the se

- 9.04 Palignment Classification of the control of th
 - A right-of-way without at-grade crossings, which is grade-separated or protected by a family which is grade-separated or protected by a fence or substantial barrier, as appropriate to the location. (Includes subways and aerial structures.)

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- b. Semi-Exclusive:
- BONNONEGS ENM-AG-CHESTA 12 (1) Fully exclusive right-of-way with at-grade crossings, protected between crossings by a fence or substantial barrier, if appropriate to the location. 30% police male of the world to be the open
 - (2) Within street right-of-way, but protected by sixinch high curbs and safety fences between crossings. The safety fences should be located outside the tracks.
 - (3) Within street right-of-way, but protected by sixinch high curbs between crossings. A safety fence may be located between tracks.
 - (4) Within street right-of-way, but protected by mountable curbs, striping, or lane designation.
- c. Non-Exclusive:
 - (1) Mixed traffic operation -- surface streets.
 - (2) LRT/Pedestrian Mall. and a transmission of messaging of the contract of the second of the second
- 9.05 Emergency Walkways.

THE STAND BOOKS An unobstructed emergency walkway at least thirty (30) inches wide and accessible to persons getting off disabled trains shall be provided along all trackage in subways, tunnels, on bridges, and on alignment Classifications 9.04a, 9.04b (1), and 9.04b (2). Walkways shall have a reasonably regular surface and shall not have a slope exceeding one (1) foot vertical to six (6) feet horizontal. A single walkway may serve more than one track.

9.06 Clearances.

- a. The provisions of General Order 26-D, Sections 9, 10, and 11, shall not apply to tracks used exclusively for rail passenger operations defined in Sub-part 2.08 hereof as Light-rail Transit.
- THE SECOND PROPERTY OF THE PROPERTY OF STREET b. All clearances shall be measured from the dynamic envelope of the outermost surface of the largest vehicle on tangent track. The spacing of tracks and structures shall be increased proportionately for curved track to provide the minimum clearances specified in this part at all locations. Minimum clearances shall be such that no contact can take place due to any condition of design wear, loading or anticipated failure such as air spring deflation or normal lateral vehicle motion.
- c. The minimum side clearance to obstructions higher than eight (8) inches above top-of-rail and the clearances between LRV's and streetcars located on parallel tracks 4、1000年的1000年10日,11日本 18日本 18日本

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APPENDIX ACCOM

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.
 - employees, and other persons are normally prohibited while trains are in motion, the minimum clearance shall be eighteen (18) inches. Fixed wayside structures less than five (5) feet in length (e.g. catenary and signal poles, switching equipment) shall be excluded from this requirement provided approved measures are taken to give warning of restricted clearances.
 - (3) In exclusive right-of-ways including subways, tunnels, and portions of surface and elevated alignment which are equally inaccessible to persons, clearances may be reduced to the dynamic envelope of the largest rail vehicle operated, provided all LRVs and streetcars have windows effectively designed and constructed as provided in Sub-part 6.04b of these rules and regulations.

9.07 High Level Platforms. The second of the

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.

9.08 Crossings of Public Streets and Railroads. Sage

No-crossings or intersections of tracks of an LRT system and a public road, highway, street, or track of a railroad corporation either at-grade or at separated grade shall be constructed without having first filed an application pursuant to the Public Utilities Commission Rules of Practice and Procedure, California Administrative Code, Title 20, and secured the permission of the Commission.

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9.09 Construction, Maintenance, and Alteration of Grade Crossings Darie between the wood out of the congression and

> The construction, maintenance, and alteration of crossings at grade of LRT trackage and public streets, roads, and highways shall be governed by the provisions of General Order 72-B and General Order 88-A- 31 1990 2000

9.10 Right-of-Way Signs.

Except along public streets and roads, every LRT system shall install and maintain clearly visible and legible advance signs warning operators of the following conditions:

THE RESERVED AND THE CONTRACT

- a. Speed limits
 b. Mandatory stops, except stations
- c. End of signalized track the company

Other signs of an advisory nature, such as station ahead, grade crossing ahead, and resume speed, may be installed.

All signs shall be placed above or adjacent to and preferably on the right-hand side of the track so that they will be clearly associated with the track to which they apply.

9.11 Derail Warning Signs. The Translation of the Derail Warning Signs.

Every LRT system shall install and maintain a clearly visible warning sign at the location of each derail. The sign shall bear the word "DERAIL" in black letters not less than seven (7) inches high onea white background.

9.12 Clearing Vegetation.

All LRT system operating right-of-way shall be cleared of allovegetation that would: and the control of the design of the control of the co

- and constitute a firechazard washed which have been been been
 - المعهد والإمالي والعقودة الوال b. Obstruct a vehicle or train operator's visibility of signs, signals, or the track ahead.
 - c: Interfere with employees in performing normal trackside The control of the co
 - ు కుండి కింది. మార్క్ కార్ కొంటి కింది ప్రామానికి కారా కింది ప్రామానికి కింది కింది

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- 10. TRACTION POWER REQUIREMENTS TO THE TOTAL OF THE PROPERTY O

and the commentation with the comment of the commen The following definitions shall apply to words and phrases used in setting forth these traction-power safety requirements: in arms becausens action

- A nominal voltage of 600 volts or more, and a result of a property of the contract of the cont
 - b. Qualified Person. Date is it is not be a property of the state of An authorized person who, by reason of instruction, training, and experience, is familiar with high voltage circuits and equipment and has demonstrated familiarity with the work to be performed and the hazards involved.
- 10.02 Electric Supply and Communication Systems.

Electric supply and communication systems shall comply with the requirements of General Order 95, Rules for Overhead Electric Line Construction, and General Order 128, Rules for the Construction of Underground Electric Supply and Communication Systems.

In addition to the requirements of this sub-part, alltraction power facilities shall conform to the National Electrical Code. Notwithstanding the provisions of Section 2706(a)(2) of the following referenced standard, all traction power facilities and employee work procedures shall conform to Title 8, Electrical Safety Orders, California Administrative Code.

10.04 Traction Power Installations. Lawrence of the track to the context

tim maa bija a liga sa sa sa Every LRT system shall ensure that all traction power installations and extensions, repairs, and changes in existing installations shall only be made by, or under the supervision or direction of, qualified persons.

All substation buildings and enclosures shall be kept securely locked at all times. Access to such buildings and enclosures shall be limited to qualified persons only.

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10.05 Identification.

All switches, circuit breakers, and other control devices associated with the traction power system of every LRT system shall be located or marked to clearly indicate the

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apparatus, equipment, or area served by them. Permanent and conspicuous "HIGH VOLTAGE" warning signs shall be posted on all doors, gates, and covers of enclosures that provide access to conductors, equipment, and apparatus that are energized to high voltages.

10.06 Energized Parts.

Energized conductors, switches, and other apparatus, other than rails or rail-connected equipment installed or maintained by a LRT system shall be located or enclosed so as to prevent accidental contact by persons or objects. Rails and rail-connected equipment must be built and installed in a way that will prevent harmful voltages from affecting people that may come in contact with them.

10.07 Disconnect Switches.

Every LRT system disconnect switch intended for isolating an indoor or outdoor traction power circuit form sources of power using switches that have no rated capability for making or interrupting currents, shall be locked or interlocked to prevent opening or closing under energized conditions.

10.08 Shop Interrupter Switches.

In shop and maintenance areas where work is performed on or near high-voltage energized parts of vehicles, there shall be a readily apparent emergency switch to interrupt all sources of energy and power to any track, section of track, vehicle, or train which is energized.

10.09 Noncurrent-Carrying Parts.

Except within a substation, all noncurrent-carrying metal or metal parts of all fixed equipment and associated fences, railings, housings, enclosures, and supporting structures, including lamp posts, catenary poles, metal conduits and raceways, cable sheaths, metal frames, cases and hangers of equipment and metal switch handles and operating rods shall be permanently and effectively grounded or, for ungrounded DC system equipment, grounding may be through protecting devices that will disconnect the DC system under unsafe conditions.

10.10 Construction Plans.

No LRT system shall install any traction power equipment or apparatus or make changes to an existing traction power system unless done according to plans and specifications

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prepared under the responsible charge of a qualified person. All engineering documents relating to the traction power system shall show the name and title of the responsible qualified person.

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11. FIRE PROTECTION REQUIREMENTS discogned to discount of the both of the state of

11.01 Fire Protection Requirements - men of a second district medical

All LRT systems shall establish fire protection requirements to control potential fire hazards. The minimum requirements for underground segments of the LRT system shall be as specified in the Standards for Fixed Guideway Transit Systems published by the National Fire Protection Association (NFPA 130). The minimum requirements for all other segments shall be established by the LRT system based upon a documented engineering analysis of the factors affecting fire hazards and fire risks using NFPA 130 as a quide.

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12. REQUIREMENTS OF SAFETY SENSITIVE EMPLOYEES TO TO ADMITS

12.01 Definitions Used in this Part.

The following definitions apply to words and phrases used in this part:

a. Safety Sensitive Employee - the sensitive according to the sensitive acc

An individual employed by an LRT system who operates LRVs or streetcars, or who dispatches or controls the movements of such LRVs, or who is engaged in the installation or maintenance of LRV's train control, train protection, or signaling systems.

b. On Duty.

An employee is on duty from the time the employee begins to work or is required to be in readiness to work until the time the employee is relieved from work and all responsibility for performing work. On duty status begins at a point following eight consecutive hours off-duty.

12.02 Driver's License.

Every operator of a light rail vehicle or streetcar shall possess a valid class B commercial driver's license with a passenger transportation endorsement, except employees of those systems that do not operate combined bus/rail modes. At systems operating rail only, operators shall be required to possess a valid California class C driver's license, provided that a physical examination for persons meeting the class B licensing requirements established by the DMV is administered to such employees bi-annually.

12.03 Use of Alcohol, Narcotics, or Drugs Forbidden.

The use, possession, or sale of intoxicants, drugs, narcotics, marijuana, or controlled substances by safety sensitive employees of LRT systems, when on duty, is prohibited. Safety sensitive employees shall not be allowed to go on duty if such employees are under the influence of or have in their possession any drug, alcoholic beverage, intoxicant, narcotic, marijuana, medication, or other controlled substance, including those prescribed by a doctor, that will adversely affect their alertness, coordination, reaction, response, or safety. Excepted from this sub-part are employees under medication prescribed by a doctor who, with their employer's permission, are engaged in

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duties other than those that involve safety of operations or maintenance.

12.04 Hours of Service - Safety Sensitive Employees.

LRT systems shall not require or permit any safety sensitive employee to remain on duty for more than twelve (12) consecutive hours or more than an aggregate of twelve (12) hours spread over a period of sixteen (16) hours.

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13. OPERATING RULES

13.010 Operating Rules Shall be Adopted. Alothe and were 1922 doubt

Each LRT system shall adopt and enforce a set of operating rules which, as a minimum, are in full compliance with the safety rules and regulations of the Commission and other applicable federal, state, and local governmental agencies. Employees whose duties are governed by the operating rules shall be given a copy of the applicable rules. All work activities shall be performed in strict accordance with the operating rules.

ు మార్గా ఈ రెక్ట్స్ కాట్లు ఉంది. కుమాట్లో ఉంది. మాడ్రి ప్రతించింది. 1995 ఎక్కువ స్టారికి స్టారికి స్టారికి స్ట

13.02 Operating Rules Shall be Submitted.

No LRT system shall operate any light-rail vehicle over any of its trackage for regular service to the general public, for testing or readiness checking, or for any other purpose until its operating rules have been filed with the Commission staff.

Two copies of the carrier's operating rules shall be submitted a minimum of twenty (20) working days prior to their implementation.

The issuance of any bulletin, procedure, or order which revises or modifies the operating rules shall be filed concurrently with the Commission staff.

13.03 Program of Instruction.

Each LRT system shall adopt a program of instruction for all new employees. At least every two (2) years a refresher course on the meaning and application of the carrier's operating rules shall be provided. Records showing compliance with this requirement shall be maintained for four (4) prior calendar years.

13.04 Program of Operational Evaluations.

Each LRT system shall periodically conduct operational evaluations and inspections to determine the extent of compliance with the carrier's operating rules, Vehicle Code, timetables, special instructions, and other applicable property rules and procedures. Records of evaluations and inspections shall be maintained for two (2) calendar years.

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APPENDIX Accorded Page 28

13.05 Procedures for Transporting Property.

Each LRT system shall establish procedures to ensure that property carried on LRVs meets the requirements for transportation of property in Title 13, Section 1216 of the California Administrative Code.

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నంతి మందోని ఉళ్ళుకుంటే కారికుకు కొత్తున్నారు. మధిక్రించ్ కారుకుక్కి కార్క్ ప్రాట్లు కార్క్ ప్రాట్లు కార్ట్ ప్రా తెల మీరుకి కారుకుడుకులో ఇది కార్లాల్లో మార్చి ఉన్నారు. అకి కొర్కి ఉన్నారుకుంటే క్రెంట్లు కార్ట్ కోత్తా కారుకుడుకులో ఉన్నారుకులో మాత్రంలో ప్రాట్లు మీరుకుంటే క్రిక్కు కార్ట్ క్రెంట్లు కోతాములు ఉన్నారుకుంటే మీరుకుంటే మాత్రంలో ప్రాట్లు మీరుకుంటే క్రిక్కు కార్ట్ క్రెంట్లు కోతాములు ఉన్నారుకుంటే మీరుకుంటే

<mark>హిళల విద్యాప్తున్న మన్ని కిర్మాల ముందుకులో పొట్టి తిరాకం పెందిని కార్కి కొట్టుకుండి. ప్రతి ప్రామాత్రించిని కొట మూ<mark>టిప్రామిక మూలలో ఈ ముక్కులు మూలలో కారకు కూడానికి కొట్టుకుండిని కార్మ్ మండి కార్క్ మండి కూడి పోట్టుకుండి. కార్ మహికుమూలకో మూట్ ప్రముత్తున్న మండికి కార్మ్ కార్మ్ కార్మ్ కూడికి కార్మ్ కూడికి కూడికి కూడికి కూడికి కూడికి కూడి</mark></mark>

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మండి మండు అంటా కుండా కార్యం గుండి కుండి కుండి కుండి కుండి కుండి కుండి కుండి కుండి మండు మండు తెరికుండి కుండి తె మండు కుండి కుంది.

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మొంతిని మొండి మెల్లుకుండా కొన్నారు. మాకాకోతుడుప్రాడి అదికారుకుండి కొన్నారు. అంటుకుండి మొంతు మొంతు మొంతు తెలుకు తాళాతుప్రకుడుకుండా మనికు కొనుకు కొనుకు ఉంది. కొనుకు కొన్నారు. కొనుకు అనికి కొన్నారు. కొనుకు అనికి కొనుకుండు. అయితున్నారు. మాత్రుతే మార్కు కొనుకు కొనుకు కొన్నారు. అనికి కొనుకు కొన్నారు. కొనుకు అనికి కొనుకు కొనుకు కొనుకు అముతునికి మాత్రుకు మాత్రుకు మండు కారుకు కొనుకు క మార్కారుత్వారు. అముకు కొనుకు కొనుకు కొనుకు కొనుకు కొనుకు కొన్న తెలకుకుండు. కొనుకు కొనుకు కొనుకు కొనుకు కొనుకు

APPENDIXCARCON Page (29 page)

- 14. INSPECTIONS, ETESTS, AND MAINTENANCE OF THE WAR AND REPORT OF THE
- Representatives of the Commission shall be allowed to enter upon the property and onto any LRV or streetcar for the purpose of determining compliance with Commission rules, making tests, and inspecting records.
- 14.02 Duty of Light-Rail Transit Systems.

Every carrier, its representatives, LRV operators and other employees, shall afford representatives of the Commission all reasonable opportunity and facilities, to make such inspections and tests as provided for in this part.

14.03 Operator Records.

Every LRT system shall maintain records of operator qualifications, training, testing, and other records showing compliance with this general order, the Vehicle Code, and other applicable regulations. Such records shall be maintained for the prior four (4) calendar years.

14.04 Light-Rail Vehicle Maintenance Practices and Records.

Every LRT system shall institute systematic inspection and maintenance practices for LRVs on a mileage, hourly or other periodic basis. LRT systems shall require that all LRVs, and all required accessories on LRVs, shall be inspected and maintained so that they are in safe working condition. An inspection and maintenance record shall be maintained for each LRV and kept on file for the four (4) prior calendar years.

14.05 Track Maintenance Practices and Records.

Every LRT system shall establish a track maintenance and inspection program. The Federal Railroad Administration (FRA) track safety standards contained in Section 213.9 of sub-part A and all of sub-parts B, C, D, and E as published by the FRA in Title 49, Chapter II, Part 213 of the Code of Federal regulations shall be used as a guideline to establish minimum safety standards and inspection intervals. When alternative safety standards and inspection intervals used are less stringent than those contained in Title 49, they shall be filed with the Commission. Records of periodic track inspections showing defects and deviations from the adopted standards along with the corrective action taken shall be kept on file for the four (4) prior calendar years.

APPENDIXOASSAS Page 30 245

14.07 Traction Power SystemaInspections and Records 200 MODES AND ADDRESS AND

Each LRT system shall adopt a traction power system (TPS) maintenance and inspection program. Records of TPS maintenance and inspection activity, including any defects or deviations from the adopted standards, shall be kept on file for four (4) prior calendar years.

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APPENDIX: AFFORM Page: 31500

15. CACCIDENT REPORTING REQUIREMENTS W STAND SOLD TANGED MAA . AT LAKE TO ACCIDENT REPORTING REQUIREMENTS W STANDS SOLD TANGED MAA. . AT

Every LRT system shall submit accident reports to the Commission staff. Reportable accidents are those which exceed the thresholds established in this part and which are associated with the operation and maintenance of LRVs, streetcars, other on-track equipment, signal systems, traction power systems, or the maintenance of track and other wayside equipment. The provisions of General Order 22-B shall not apply to LRT systems.

15.02 Initial Notification of Accidents.

Every LRT system shall immediately notify the Commission staff of the following classes of accident by telephone:

- a. Any fatality or serious injury (an injury requiring medical treatment as defined in the current Federal Railroad Administration Guide for Preparing Accident/Incident Reports) to patrons, employees, or other persons.
- b. All fires or other hazardous events which require the evacuation of passengers or fire suppression activities conducted by the fire department.
- 15.03 Written Reports of Accidents.

Every LRT system shall submit written accident reports on forms prescribed by the Commission staff. Such written accident reports must be submitted within 30 days after the last day of the month in which the accident occurred. Written reports shall be filed for the following classes of accidents:

- a. All accidents requiring immediate telephone notification.
- b. All derailments or collisions between LRVs or between LRVs and other on-track equipment.
- c. All accidents involving impact between LRT system ontrack equipment and a motor vehicle, bicycle, or pedestrian at crossings of public highways, private roads, intersections, or on public streets between crossings or intersections.

APPENDIX: ALMSA Page: 32:53

d. Any other accident which results in monetary damage to a LRT property which exceeds an amount to be established by the Commission staff.

15.02 Trible! Not cliebt on on Accuments

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- డికి సినిమ్లో ఓడిపిందేవేక్స్లో దూరా అంటూమేరావుడి ఉద్యాయకాలు కల్పు ఎక్కువడ్డాలు ద్వారావుకుంటే కలు ఈ ముందిందేవేదేవే కూడాలు గ్రామంలోకి మూర్ చేకుకుంటే కల్పుకుంటే కల్పుకుంటే మార్వామంలోకి మార్వామంలోకి మార్వాములోకి మొందిందేవేదుకున్నే కొనుడికి ఉద్దర్శులు మెద్దించాకున్న కుట్కుకున్నారు. అంటే అన్నాయిందాకున్న అంటే తినిమీరిందా కుట్టికి అయికి అయికి మార్వామంలోకి కుట్టికి కుట్టికి కుట్టికి కుట్టికి కుట్టికి అయికి అయికి అయికి అయికి అయికి మార్వాములోకి కుట్టికి కుట్టికికి కుట్టికి కుట్టికి
- ంగు మెక్కి కోకడింది. చారి తుందినిందిని మండినించిన ప్రాటక్టున్న కాట్లో కాట్లోన్నారు. అన్నారు. అన్నారు. అన్నారు ఈ మండినించిన తన పాడుకులు మార్కి మండికి తన కోటుకారి కట్టి కోట్లో కోట్లు కోట్లు కోట్లు కోట్లు కొట్టికి మండికి కొట తాతినించిన కోట్లు కోట్లు కోట్లు తెల్లానికి కొట్టుకోట్లు.
 - 15.03 Written Reporte on Accidents.

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- $z_{\rm s} = A11$ accidents requiring incommute two equipments actifically and the contraction.
- b. All demailmente or colliniene serveen LPM. or beryeen All and other co-vrack occurrent.
- C. All sacticiones involving impace heaves this eyecom comtimeth actionant and a motion which or eyeso, or pedestrian of arvesings of politic alphages, private roads, interaccontident, or or politic at a lar between crossings or actionalization.

APPENDIX A Page 33

16. MISCELLANEOUS REPORTING REQUIREMENTS

16.01 Monthly Summary of Accidents and Operational Statistics.

Each LRT system shall file a monthly accident and operational statistical summary report. This report shall be filed on a form prescribed by the Commission staff within 30 days from the last day of the month covered.

The monthly summary report of accidents and operational statistics shall be filed whether or not reportable accidents occurred during that month.

16.02 Signal Failure Reports.

Every LRT system shall report each failure of a signal, signal appliance, crossing warning device, or other control system that results in a false proceed or other unsafe indiction that is hazardous to the movement of LRVs, streetcars, trains, or motor vehicles. The report shall be made within five business days after the failure occurred.

16-03 Plans and Specifications.

As soon as an LRT system has developed plans and specifications for construction of a line, route, extension, or realignment of a line or route, copies shall be filed with the Commission.

If required, the filing shall include fire protection requirements which have been established by an engineering analysis of fire hazards and fire risks as provided for in Part 11 of these rules and regulations.

All final construction drawings, train protection and traction power plans, LRV drawings, track-work plans, and technical specifications shall be submitted to the Commission prior to the time the respective contracts are awarded or construction is started on any aspect of work covered by the plans and specifications.

All plans, drawings, and engineering documents shall be prepared under the responsible charge of a qualified engineer and each plan shall show the name and branch of engineering of the engineer responsible for it.

| 9.04 Alignment Classification | Crossing or Intersection Control | Train Protection | Haximum Pernitted Speed Notes |
|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------|
| a. Exolusive | Not Applicable Not Applicable Not Applicable | ATP & ATS ATP Only None Required | No Limit 1 55 HPH 45 HPH 2 |
| b. Semi-Exclusive (1) Fenced Right-of-Way | 1) Between Crossings 2) At Crossings | Train Protection Speed as for A 9,04,4, above | on 6 Haximum Permitted lignment Classification |
| vith At-Grade Croseings | Flashing Lights & Gates Flashing Lights & Gates Flashing Lights & Gates Traffic Signal or Other Approved Davice | ATP & ATS ATP Only Hone Required Hone Required | No Limit 55 HPH 45 HPH See Footnote 3 2, |
| (2) Street Hedlan or Side Alignment with | 1) Between Crossings 2) At Crossings | Hone Required | Legal Speed of Parallel 2, Traffic + 10 MPH |
| | Flashing Lights & cates (Side Alignment Only) | None Required | Legal Speed of Parallel 2, Traffic + 10 HPH |
| | Traffic Signal or Other Approved Device | None Regulred | Legal Speed of Parallel Trafflo But not to Exceed 35 HPH |
| (3) Street Hedian or Side Alignment wit 6" Curb | Approved Device | llone Required | Legal Speed of Parallel Traffic But not to Exceed 35 HPH |
| (4) Hountable Curb or Transit Lane | Traffic Signal or Other Approved Davice | None Required | Legal Speed of Parallel Traffic But not to Exceed 35 HPII |
| o, llon-Exclusive (1) Hixed Traffic, 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | (名書) - 기술 왕조 () (-+) ((全有)) (() () () () | None Required | Traffic But not to Exceed 35 MPH |

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1) Speed is limited only by vehicle or alignment characteristics;
2) Provided adequate stopping sight distance is available.
3) Traffic signal or other approved device at crossings on 9.04, b, (1) right-of-way may be authorized only in special locations, where speeds do not exceed 35 HPM.

4) Lower speed may be required for malls paved flush with the tracks.

5) Haximum speed 55 Hell unless ATP & ATS are provided. Haximum speed 45 Hell unless ATP is provided.

APPENDIX B

COMMISSION INVESTIGATION INTO THE REVISION OF G.O.143

INTERESTED PARTIES AND AND ADDRESS AND ADD

Edward R. Gerber, Executive Director

California Transit Association

1400 K St., Suite 301

Sacramento, CA 95814-3072

Thomas Matoff, General Manager CAR paids Transit Secremento, CA 95812-2110

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Cameron Beach, LRT Manager abbinang 8%8

Sacramento Regional Transit

P. O. Box 2110

Sacramento, CA 95812-2110

Tom Larwin, General Manager substitution Development Board 81908 AD 1001000 Decided Board 81908 AD 100100 Decided Board 81908 A

Rick Thorpe, Director of Engineering rights began controlled and descript San Diego Metropolitan Transit Development Board (1997) and the decided San Diego, CA 92101-7490

Langley Powell, President/Managing Director and the content of the

Peter D. Tereschuck, V.P./Manager of Transportation codes act noted to accept the San Diego Trolley, Inc.

1255 Imperial Avenue, Suite 900

San Diego, CA 92101-7492

James F. Reading, Director of Transportation: Santa Clara County Transit
1555 Berger Drive
San Jose, CA 95112

I.89-07-003 L/ bjk

Neil Peterson, Executive Director

Los Angeles County Transportation Commission (LACTC)
408 W. 8th Street, Suite 500 maddemail avantable to an area and a commission (LACTC)
Los Angeles, CA 90014-3096 maddemail avantable and mademail and an area and a commission (LACTC)

Angeles County Transportation Commission (LACTC)

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Edward McSpedon, Director of Design & Construction

408 W. 8tn Street, Suite 500 Los Angeles, CA 90014-3096

Los Angeles County Transportation Commission (LACTC)
408 W. 8th Street, Suite 500 Too Angeles (A 90014-3096 COMMISSION (CACADADA COMMISSION)
TOO Angeles (A 90014-3096 COMMISSION)

P. C. Box 2116 Sacramento, CA 95011-2114

Guy Wright, Director of Safety

S. F. MUNI 949 Presidio

San Francisco, CA 94115

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P. C. BOK DIIO

2. C. Box 2110 Sacramanto, OR 65618-8110

Alan Pegg, General Manager

Alan Pegg, General manager
Southern California Rapid Transit District Los Angeles, CA 90013 cracea descriptioned dans and codificaçorment openio stal 1235 Throatisl Aronaes, Alies 1820

San Dieto, Ch. Childier 1990

Harold Storey, Director Systems and Construction Safety

Frank J. Wilson, General Manager

BART (San Francisco Bay AreatRapidiTransit) Affordation Server Calibrat Modernal 800 Madison St., P. O. Box 12688

Oakland, CA 94604-2688

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Ralph S. Weule, Director of Safety

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J. P. Jones

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Sacramento, CA 95814

1555 Barger Drive San Jose, an 95112

Bill MacLean, Pres.

Amalgamated Transit Union, Local 265 hd to tottomic yrange amalgace soil avida because III. San Jose, CA 95113

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Carlotte Committee Committ

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Roy Williams, President Amalgamated Transit Union Local 256 3015 "O" St., Suite "B" Sacramento, CA 95815

Jack Osburn, Business Agent
International Processing International Brotherhood of Electrical Workers, Local 1245 0,0012 70 ,000000 Marysville, CA 95901

The second secon

Ron Fitzsimmons, Asst. Business Manager
International Brotherhood of Electrical Workers, Local 1245
3451 Ramona Avenue #5
Sacramento Ch 05000 Sacramento, CA 95826

e carrie accepta e care John Digenan, Asst. Business Manager International Brotherhood of Electrical Workers
Local Union 465
229 W. Washington St. Some of the state 229 W. Washington St. San Diego, CA 92103-1997

Dave Moore, Business Manager/Financial, Secty. International Brotherood of Electrical Workers Local 465 229 W. Washington St. San Diego, CA 92103-1997

Hank White, Pres./Business Agent Amalgamated Transit Union, Div. 1555 AFI-CIO 132 9th St., Suite 100 Oakland, CA 94607

Jack R. Gilstrap, Executive Vice President American Public Transit Association (APTA) 1225 Connecticut Ave., N.W. Washington, D.C. 20036

William Stead, General Manager S. F. MINI 949 Presidio San Francisco, CA 94115

Mr. Earl Clark General Chausperson, AND Pasadena, CA 91107

United Transportation Union
36 South Kinnelos Ave.

Pasadens, CA 91107

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Mr. Milt Waalkins, President United Public Employees Union Local 790 na via Do recommendate independent 522 Grand Avenue Calciand, CA 94610 9821 MOD .0 .9 The same of the sa

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Alex E. Luthus, Manager Rail Transit Safety Branch, Safety Division III of Decision Constant Independent California Public Utilities Cafety Division III of Decision California Public Utilities C California Public Utilities Commission 505 Van. Ness Avenue, Rm. 2100 Locul Union 468 San Francisco, CA 94102 223 W. Wassbangeter Co. San Disco, Ch. Faliss-1997

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