RULES AND PROCEDURES
FOR
CONDUCTING TEST OPERATIONS

METRO GREEN LINE

AUGUST 2, 1993

230.10' length
west walkway 8.4' wide
P&R to carriage car
walkway to pavilion 123.5' length
7.9' wide
2 car train load
from entrance
Have 100 people to
Preload

1,386'
from west

RULES AND PROCEDURES

FOR

CONDUCTING TEST OPERATIONS

METRO GREEN LINE

Median
30' wide
side walk 9'

AUGUST 2, 1993

19.4'
platform
width

№ 499

6.9'
from column
to stanchion edge

310.6' Stair to
platform
Stair bottom
to platform

RECORD OF CHANGES

Change Number	Date Entered	Signature/Title/Company M+A
10Cp 1-2	11/18/94	Teresa K. Blumo-Fearks, OPS PLNR

FOREWORD

This manual entitled Rules and Procedures for Conducting Test Operations has been formulated for three purposes:

1. To identify the operating practices and standards of the Metro Rail Project during test operations.

2. To aid in the instruction of these practices.

3. To serve employees as a reference whenever questions arise on the correct and safest course of action.

This manual was prepared through the joint efforts of the Los Angeles County Metropolitan Transportation Authority and O'Brien-Kreitzberg & Associates, Construction Manager.

SECTION I: INTRODUCTION

This manual of Rules and Procedures for Conducting Test Operations contains rules and procedures which govern the performance and conduct of all personnel responsible for test operations and maintenance of the accepted portions of the Metro Rail System. The intent is to help employees perform their duties safely and effectively. Each employee must learn and understand the rules and maintain a thorough familiarity with all procedures specific to individual work assignments.

O'Brien-Kreitzberg Associates (OK) and Los Angeles County Metropolitan Transportation Authority (LACMTA) Operations will conduct training in these rules and procedures initially, and will provide additional training based on the Metro Rail System Operating Rulebook to be published prior to revenue operations. Employees are encouraged to direct questions about interpretation of the rules to their immediate Supervisors. Suggestions designed to improve or clarify any rule should be submitted.

Copies of the rules and procedures will also be distributed to the various Contractors and Consultants involved in system testing. All Contractor, Consultant and LACMTA employees are expected to strictly comply with the rules and procedures in this book. Ignorance of the rules does not excuse negligence or failure to properly perform all required duties. Failure to comply with the rules and procedures book or any violation of the rules shall be considered sufficient cause for discipline of personnel involved in System Testing and when justifiable, shall be sufficient cause for removal of violators from the Metro Rail System Project.

Safety must always be the first consideration. The result of unsafe practices on the rail system can be extremely serious. When in doubt during any situation, employees must take the safe course of action and then contact the designated authority for assistance. All employees are required to exercise care to prevent injury to persons or damage to property.

SECTION II: GENERAL RULES

APPLICATION OF RULES

100 Safety is of the first importance in the discharge of duty.

101 While on duty, employees whose duties are affected by rail vehicle operations or rail maintenance operations, must have a current copy of the Rules and Procedures Manual for Conducting Test Operations immediately available for reference at all times.

102 Employees must be familiar with and obey all rules and instructions and must attend required classes and pass all examinations.

103 When in doubt as to the meaning of any rule or procedure, employees should contact their immediate, "on duty" supervisor for an explanation.

104 Employees that are uncertain on what action should be taken in any situation, must take the safe course of action and then contact the "on duty" supervisor.

105 Reserved for future use.

106 Employees must engage in only LACMTA business while on duty and perform their assignments thoroughly, efficiently and in compliance with the rules , procedures and instructions.

BULLETINS AND NOTICES

107 Permanent changes or additions to this manual will be made by way of Bulletins. These Bulletins will be issued by the LACMTA/RCC Manager of Rail Activation and will be numbered consecutively from January 1 of each year. Employees must amend their manuals, as directed by Bulletins immediately upon issuance of the Bulletin.

108 Temporary changes to this manual governing special conditions for a specific period of time will be made by way of Special Orders. These Special Orders will be issued by the LACMTA/RCC Manager of Rail Activation and will be numbered consecutively from January 1 of each year.

109 Instructions may be issued to test operating personnel by way of Notices and Procedure Notices. These Notices and Procedure Notices will be issued by the LACMTA/RCC Manager of Rail Activation and will be numbered consecutively from January 1 of each year.

110 All Bulletins, Special Orders, Notices and Procedure Notices will be posted on the Bulletin Board in addition to being issued to operating personnel. The employee posting Bulletins, Special Orders, Notices and Procedure Notices on the Bulletin board will note the time and date posted and initial in the space provided.

111 When returning from an off duty period, employees are responsible for compliance with Bulletins, Special Orders, Notices and Procedure Notices posted during their absence.

PERSONAL CONDUCT

112 LACMTA employees are governed by LACMTA's Comprehensive Alcohol & Drug Abuse Policy. All other employees are governed by the Drug and Alcohol Program specific to their organization.

113 Employees taking any prescribed medication that may affect their judgment or faculties must not operate a Metro Rail System vehicle or any other equipment.

a. The use or sale of alcoholic beverages, intoxicants, drugs, narcotics, marijuana or any controlled substances by employees, when on duty or on Metro Rail System property, is prohibited.

b. Employees must not report for duty under the influence or have in their possession while on Metro Rail System property any drug, alcoholic beverage, intoxicant, narcotic, marijuana, medication or other substance, including those prescribed by a doctor, that will in any way adversely affect their alertness, coordination, reaction, response or safety.

c. Employees must be physically qualified to perform their usual and customary duties. Employees whose health becomes impaired to the extent that safety is threatened must notify a Supervisor immediately.

114 Employees must be fully alert at all times. Sleeping or assuming an attitude of sleep while on duty is prohibited.

115 Employees are forbidden to eat, drink, smoke or read unauthorized materials in the operating cab of rail vehicles.

116 Employees must conduct themselves in a professional, courteous and civil manner. Boisterous actions and profane language are prohibited.

117 Soliciting by employees for political, religious, social or other causes while on Metro Rail System property is not permitted without the written consent of the LACMTA/RCC Manager of Rail Activation. Distributing or displaying unauthorized materials on Metro Rail System property or vehicles is prohibited.

118 While on Metro Rail System property or vehicles, on or off duty, employees other than security must not use, carry or have in their possession, any device or object classified under the laws of this state as a deadly weapon or any self-defense device. This would include a stun gun or any object which, when used as a weapon, is capable of inflicting substantial bodily harm.

119 Employees must keep their immediate Supervisor advised of their current home address and telephone number.

120 Employees are responsible for Metro Rail System property issued to them and must return such property upon request or when scheduled. Employees must not convert Metro Rail System property for their personal use and must promptly report lost or defective items to their immediate Supervisor.

121 Employees must be appropriately dressed for their duties. Clothing, while on duty, must be clean and in good condition.

122 Employees must maintain a high standard of personal cleanliness and neatness. Any individual style of clothing or accessory that creates a hazard is prohibited.

123 While on duty, designated employees must have a functioning, regulation approved watch, adjusted to the correct time as provided by the Test Controller.

124 Employees are not to participate in any form of gambling while on or about Metro Rail System property.

125 Employees are prohibited from fighting, "horse play", or any form of practical joking on or about the Metro Rail System, whether on or off duty.

126 Employees must not duplicate or cause to be duplicated any assigned keys.

127 Employees must not falsify any official report or enter or cause to be entered inaccurate, false or improper information on the books, reports, logs or test records.

128 All Metro Rail System business, instructions and communications must be conducted in the English language.

129 Employees must report on time, ready for duty, at the place assigned.

130 Employees must not commit any act which could bring reproach or discredit to the Metro Rail System.

131-
139 Reserved for future use.

PERSONAL RESPONSIBILITY

140 At all times Employees must protect their personal safety and the safety of other employees, patrons and others. It shall be the duty of each employee, while on or about Metro Rail System property, to exercise good judgment and take necessary precautions at all times.

141 Employees must promptly report all incidents and injuries to their immediate Supervisor, no matter how minor, and request first aid or medical attention when necessary. Major incidents or injuries must be reported immediately to the Test Controller.

142 Employees must promptly inform their immediate Supervisor of any unsafe condition or defective equipment and take necessary precautions if an immediate hazard exists.

143 Any trespasser on or near the trackwork must be requested to leave and the incident reported to the Test Controller. Trespassers in immediate danger must be advised of the danger and all actions deemed necessary by the Test Controller shall be implemented to prevent an accident or injury. Medical aid shall be provided for persons already injured.

144 Consider any electrical wire or apparatus to be energized ("live") at all times. Never allow any part of the body, article of clothing, objects being carried or anything attached to such objects to come in contact with live electrical equipment or circuits.

145 Never enter electrical power enclosures or substations unless authorized and necessary in the performance of duties.

146 Keep away from all dangling wires and foreign objects in contact with any electrical conductor. Promptly report the location and conditions to the immediate Supervisor. If possible, leave a qualified individual at the location until the condition has been corrected

147 Do not wear loose, ill-fitting, unfastened or unbuttoned apparel while on duty.

148 Keep emergency exits, fire alarms, fire extinguishers, water hydrants and other fire-fighting facilities clear of obstructions at all times.

149 Employees must be familiar with fire regulations and the location of fire-fighting equipment in their work area. If there is any doubt concerning use of this equipment, ask a Supervisor for instructions.

EMPLOYEES ON OR ABOUT THE TRACKS

150 Never step, stand, sit or walk on any part of the track structure unless necessary in the performance of duty. When required to perform duties in track areas, walking on or crossing tracks must be on cross-ties and ballast only. Never step or stand on track switches or components. Remote-controlled switches can be expected to move at anytime. Never contact the overhead catenary wiring. The catenary must be considered energized at all times.

151 Employees must expect rail vehicle movement at any time, on any track and in any direction. Look in each direction before entering and/or crossing the right-of-way or standing close to a track.

152 Stop, listen and look in both directions and keep in the clear if moving equipment is approaching. When walking on or about the trackway and it becomes necessary to look back, stop before turning the head or body.

153 Walk against the normal flow of rail traffic when on the trackway. Look in both directions and clear the occupied tracks upon seeing or hearing the approach of a train or other rail-borne equipment. Be continuously alert for trains approaching from either direction.

154 Use established roads or pedestrian crossings, overpasses, underpasses or pathways to cross tracks whenever possible. Only when absolutely necessary is walking in the trackway permitted.

155 Employees must not cross tracks immediately after a train has passed, but shall wait until tracks in both directions can be observed for a safe distance.

156 Employees shall not cross tracks directly in front of or behind a standing train or equipment. Allow not less than ten (10) feet of clearance ahead or behind the standing equipment before crossing, except during pre-departure inspections. Extreme caution must be exercised when a 10 foot clearance does not exist.

157 Reserved for future use.

158 Do not cross between standing coupled cars by climbing over or under couplers.

159 Do not board or leave any car, or any other equipment, while it is in motion. Never lean against standing equipment.

160 Enter and leave Metro Rail System property only at approved entrances and exits.

161 While in the performance of duties, employees must wear all prescribed safety apparel.

REFUSE REMOVAL

162 Employees are responsible for keeping work areas, facilities and equipment clean and orderly.

163 Promptly deposit refuse, trash and salvaged materials in appropriate receptacles. Items must not be thrown from a train or other equipment at any time.

164 Designated walkways and roadways are to be kept clean and free of obstructions.

165 Look for and avoid slipping, tripping or falling hazards. Remove hazards whenever possible; if unable to do so, promptly notify your immediate Supervisor and follow instructions.

REQUIRED CONDITIONS

166 Employees must not utilize or operate any Metro Rail System vehicles or equipment on or about the tracks without authorization from the Test Controller.

167 Employees are not to alter or render inoperative any safety devices unless specifically authorized by the Test Controller.

168 Seals on control switches must not be broken without authorization from the Test Controller.

169 Employees must not wear sunglasses during the hours of darkness or in circumstances where visibility is reduced.

SECTION III: **DEFINITIONS**

Accident - An unforeseen event or occurrence which results in injury or property damage.

Air Bellows - A pneumatic suspension system on each rail vehicle to provide ride quality and automatic floor elevation adjustments.

Aspect - The appearance of a signal conveying a visual indication as viewed by a Train Operator.

Automatic Train Control (ATC) - The complete, automated, train control system comprised of ATP and ATS.

Automatic Train Protection (ATP) - The subsystem within the automatic train control system which maintains safe train operation through a combination of train detection, train separation, and speed regulation.

Automatic Train Supervision (ATS) - A subsystem within ATC to monitor train operation and maintain traffic patterns. ATS is subordinate to ATP.

Ballast - Selected material placed on the rail roadbed for the purpose of holding the track in line.

Berth, Train - The space designated for a train of given length to occupy when it is stopped at a station platform, in a terminal, or at some other designated place.

Block, Absolute - A specific section of track e rail vehicle is not permitted to enter while the block is occupied by another rail vehicle. This block is strictly governed by the authority of the Test Controller.

Block, Manual - A method of governing train movement into or within blocks, governed by Train Orders.

Block, Permissive - A method whereby a Train Operator is authorized by either signals or Test Controller's orders to enter a block already occupied by another train in accordance with the rules.

Block, Test - A section of track specified for a specific test or tests authorized by the Test Controller.

Block, Track - A section of track of defined limits the use of which is governed by fixed signals, cab signals or both, or the Test Controller's orders.

Blue Flag - A portable blue flag, light or marker placed at both ends of a rail vehicle as an indication that personnel are working on, under or about the vehicle(s). Any rail vehicle(s) so protected must not be coupled to, or moved. Other rail vehicles must not be placed where they will obstruct the "blue" signal in any way without the Test Controller notifying and requesting permission from the workman in charge to place the new arriving train behind the work party. The workman will then place the Blue Flag behind the new train.

Blue Light Station - A designated location within the Rail System identified by a blue light where traction power may be **DE-ENERGIZED**.

Brake, Dynamic - The primary braking system in which electric current, derived from the motors, acting as a generator, provides controlled braking.

Brake, Emergency - The maximum braking that can be obtained, but once activated cannot be released until the train has come to a complete stop and required associated actions are initiated.

Brake, Friction - Controlled, air-blended systems applying stopping forces to brake discs on each axle.

Brake, Track - An electromagnetic brake located between the wheels of each truck, which functions through friction, contact with the running rail.

Braking (Full Service) - The maximum braking that can be obtained without going into an emergency stop condition.

Bulletins - Contain any permanent changes or additions to the rules issued over the signature of the LACMTA/RCC Manager of Rail Activation during the test operations. The bulletins will be numbered consecutively from January 1st of each year.

Bulletin Boards - The specific location where employees reporting for duty will examine new bulletins, special orders or notices affecting the operation of the system.

Bumping Post - Structure at the end of tracks to prevent car(s) from rolling off the track.

Cab - The operating compartment of a rail vehicle from which control of the vehicle is achieved.

Cab Signal Territory - That part of the mainline where cab signals govern train movement and speed.

Car - A self-propelled vehicle operating on tracks.

Car Mover - A self powered auxiliary vehicle used to move a disabled vehicle, or move a vehicle in a de-energized territory.

Catenary - A system of overhead wires in which the contact wire is supported from one or more longitudinal messenger wires, either directly by hangers or by hangers in combination with auxiliary conductors and clamps. The catenary wire provides the 750V DC traction power to the vehicle through contact with the pantograph, this provides power for the vehicle.

Chock, Wheel - A device placed between the top of the rail and the rail vehicle wheel to prevent vehicle movement when brakes are not applied or are defective.

Clearance Card - A card which, when properly filled out, authorizes the Train Operator to operate a train or rail vehicle with sealed switches in the "bypass" position or to pass an interlocking signal displaying a "stop" indication. All Clearance Cards must be turned in to the Test Controller at the end of the work day.

Clearance, No - A location within the Metro Rail System in which no clearance exists between fixed wayside structures/appliances and a moving vehicle operating on the track structure.

Consist - The number and specific identity of the cars that make up a train.

Couple - To connect rail vehicle units together in order to permit the resulting consist to be operated from one (1) cab.

Coupler - A device for mechanical, electrical and pneumatic joining of rail vehicles and/or trainline control functions of each car in the consist.

Crossover - Switches and track so arranged to provide a route from one track to another.

Deadman Control - A device built within the manual controller on the vehicle operating console which must be held in the operating position before any vehicle movement can occur and which is designed to bring a moving train to a full service stop when released.

De-energize - To shut off electrical power.

Derail Device - A device designed to cause rail equipment to leave the rails.

Derailment - When a train or car wheel leaves the rails.

Diverging Route - A change in a train's directional movement over a reverse track switch allowing for crossover movement, train storage, reversing direction or other purposes.

Dual Control Switch - A track switch controlled automatically by the approach of a train, remotely, or manually when required.

Dwell Time - The total time from the instant that a train stops in a station until the instant it resumes moving.

Electric Switch Lock - A device which restricts the movement of a specific manually-operated switch.

Emergency - A condition that can result in injury to passengers or employees, damage to equipment or property, or any combination of these circumstances.

Emergency Trip Station (ETS) - A push-button device at blue light designated locations that, when activated, de-energizes traction power to each designated track section within the limits of the power feed. Additionally, the ETS houses an emergency telephone, and a hook-up for a fire telephone.

Employee - Any person employed by LACMTA or its contractors and consultants performing work on the Metro Green Line.

Energize - To turn on power.

Energized, Equipment - Electrical apparatus, wires, cables, switches and motors which ere connected to en electrical power source and are considered "live".

Facing Movement - The switch points face towards the approaching train.

Flag - A device used for relaying hand signals or to indicate conditions on the right-of-way. A flag may be made of cloth, metal or other suitable material, or may be a light during hours of darkness.

Flagger - A person designated to protect a work party and/or their equipment on the mainline.

Flagging Protection - Flags and lanterns used by work crews for protection while working on or about the track. It is also used whenever work permits, wayside restrictions or slow zones are in effect.

Flat Car - An unpowered, non-revenue vehicle, operating on tracks moved by a powered rail vehicle. It is used to assist with track maintenance, or for other purposes.

Fouling Marker - The location on the cross-tie marked in yellow, beyond which vehicle movement or storage of a rail vehicle will interfere with vehicle movement on another track.

Frog - A track structure used at the intersection of two running rails to provide support for wheels and passageways for their flanges, thus permitting wheels on either rail to cross the other.

Grade Crossing - A crossing over the rail at rail level used for a roadway or footpath.

Guard Rail - A rail mounted to the inside of the running rail and directly across from a frog designed to keep the car wheels in line with the running rail.

Hazard - Any real or potential condition that can cause injury, death, damage or loss of equipment or property.

Headway - The time separation between two trains, both traveling in the same direction on the same track, measured from the time the head end of the leading train passes a specific reference point to the time the head end of the train immediately following passes the same reference point.

Hi-Rail Equipment - Tire-mounted, rail vehicles equipped with flanged steel wheels that allow the equipment to be operated either on the tracks or a roadway.

Incident - An unforeseen event or occurrence which does not result in injury or property damage.

Indication - The information conveyed by the aspect from a fixed signal, a cab signal, or a hand signal as viewed by a Train Operator.

Interlocking - An arrangement of signals, switches, track and control apparatus so interconnected that functions must succeed each other in a predetermined sequence, thus permitting train movements over routes only if nonconflicting conditions exist.

Interlocking Limits - The tracks between the extreme outer, opposing, interlocking signals of an interlocking.

Light Rail Vehicle (LRV) - An electrically self-propelled, passenger carrying rail vehicle.

Mainline - The territory controlled by the Test Controller consisting of: main tracks; interlockings; turnback tracks; controlled sidings; tail tracks and yard leads.

Main Track - A designated track surface on the Mainline where trains are operated by cab signals, fixed signals, or both, when authorized by the Test Controller, in a manner prescribed by the rules.

Manual Controller - The control handle that allows the Train Operator to manually control the operation of the train.

Mode: Automatic Train Operations (ATO) - Train movement controlled by a subsystem within ATC to automatically regulate train speed and perform programmed station stopping, and is subordinate to ATP.

Mode: Automatic Train Protection (ATP) - Train movement controlled by the train operator governed by cab signals and fixed signals with speed regulation, monitoring and protection.

Mode: Automatic Train Protection Bypass (ATP Bypass) - Train movement completely controlled by the Train Operator in compliance with the rules without speed regulation, monitoring or protection.

Mode: Stop-and-Proceed - Train movement controlled by the Train Operator in specific conditions when Cab signals are not available and within the yard limits. Speed is regulated to a maximum of 10 mph.

Notice - Notices will indicate instructions to all Test Operations personnel.

Notices (Procedures) - Procedure notices will advise the Test Operating personnel on the procedure to be followed in a particular circumstance. All notices will be numbered consecutively from January 1 of each year.

Pantograph - A roof-mounted device over the "A" section of a light rail vehicle for collecting the 750V DC power from the catenary system to propel the vehicle.

PIDS - Personnel Intrusion Detection System.

Power (Traction) System - The substations, feeder cable, contact wire, running rails, switchgear and other equipment interfacing with public utilities or other power sources for the movement of trains and their supporting auxiliary systems.

Rail Vehicle - A self-propelled vehicle operating on tracks, which could be a light rail vehicle (LRV), hi-rail equipment or other truck and track equipment.

Red Tag - A two part, red identification tag issued by the Test Controller to designated construction, testing or maintenance personnel that have been approved in the Track Allocation Meeting to work in an area where the catenary will be de-energized and train operations will be suspended while the Red Tag is in their possession. The Test Controller will give the individuals one half of the Red Tag and keep the other half. Until all the Red Tags are returned to the Test Controller traction power will not be restored nor will reassignment of the red tags be permitted by the Test Controller.

Red Tag Area - The limits of the Red Tag area may change weekly during the Track Allocation Meeting held every Thursday. The Track Allocation Coordinator will define, at the weekly track allocation meeting, the limits of the Red Tag area for the following week.

Red Tag Desk - The desk where Red Tags are distributed and returned.

Repeat Time - The time issued by a Test Controller to a Train Operator on a clearance card. The Clearance Card is invalid until the "Time Repeated" has been given to the Train Operator by the Test Controller.

Rescue Train - Rail equipment used to retrieve disabled rail vehicles or stranded passengers.

Route - The path a train is to follow.

Run-Through - The process of passing a station platform without stopping.

Section Insulator - A device used in the contact wire et specific locations to isolate the flow of traction power within a defined track section.

Sectionalizing - De-energizing a specific section of track area for work or other purposes.

Shop - Any designated enclosed area within the yard for the storage , repair or servicing of rail vehicles.

Shop Limit Sign - A specific location where movement of a vehicle must stop and proceed only on a proper hand signal from maintenance personnel.

Siding - A track auxiliary to the main track for turnback and /or storing trains.

Signal - A method of conveying a visual message to the Train Operator concerning conditions affecting train movement. The signal as viewed by the Train Operator is the "aspect". The information conveyed by the "aspect" is the signal's "indication".

Signal, Audible - A sound-producing device used for attracting attention.

Signal, Bag - A sleeve placed over a wayside signal that eliminates the ability of the wayside signal from displaying a visual indication (aspect) to the Train Operator. When a wayside signal is to be covered or "bagged" the wayside signal is considered out of service, switch points must be blocked and clamped.

Signal, Cab - A speed command indication on the Train Operator's operational console which conveys a visual message indicating the prevailing allowable speed for the vehicle.

Signal, Fixed - A signal at a specific location along the track area. It could be an interlocking signal, slow speed sign, switch indicator or other device for indicating conditions affecting movement of rail vehicles.

Signal, Hand - A signal indication used to govern vehicle movement by the motion or position of a person's hand.

Signal, Home - An interlocking signal at the entrance of a route governing the use of the interlocking and track block beyond. (In conjunction with verbal instructions of the Test Controller.)

Signal, Interlocking - A fixed wayside signal governing the use of an interlocking.

Signal, Light Rail Traffic - A fixed signal governing street operations of rail vehicles at intersections.

Single Track Operation - The operation, within defined limits, of trains operating in both directions over a single track on the mainline.

Slip/Slide System - An onboard protection system for detecting wheel slip on rail cars that prevents the rail car wheels from locking.

Slow Zone - An area of defined limits in which train speed is reduced for trackwork or other purposes.

Special Orders - Temporary changes to this manual governing special conditions for a specific period of time issued by the LACMTA/RCC Manager of Rail Activation and numbered consecutively from January 1st of each year.

Speed Limit - The maximum speed at which a rail vehicle may travel.

Speed, Restricted - The operating speed that will permit stopping a train, within one half the range of vision of the Train Operator, short of an improperly lined switch, track defect, train, rail vehicle or any other obstruction. Restricted speed shall not exceed 15 mph.

Station, Passenger - A place designated for the purpose of loading and unloading passengers.

Substation - A facility for distributing electricity identified by an exterior blue light.

Sweep Train - The first train to operate over the mainline each day or after an interruption of service , operating on sight, prepared to stop within the range of vision of the Train Operator.

Switch - A device enabling rail vehicle movement from one track to another. There are two types:

a. Remote-controlled - Normally operated from a distant panel or track impulse but may be operated by hand when required.
b. Manual - Operated by hand.

Switch block - A wooden block placed in the open switch point used to hold a track switch in a particular position.

Switch clamp - A device used to lock a track switch point in a particular position, either normal or reverse.

Switch Position, Normal - The track switch point position which allows a straight-route movement.

Switch Position, Reverse - The track switch point position which allows a rail vehicle to make a diverging route movement.

Terminal Station - The station located at each end of the rail system where turn-back operations are normally made.

Test Controller - The designated employee on duty at the Test Control Facility with absolute authority over all movements on or affecting the Mainline.

Test Control Facility - The location from which all Mainline and Yard operations are authorized, directed, and controlled.

Track - The two adjacent running rails over which the train or other rail vehicles operate.

Track Allocation Notice - A published weekly summary that indicates the specific contractors, maintenance and testing personnel that will be scheduled to work in the Red Tag Area the following week. It indicates the location limits, time, and days of the week for these activities.

Track, Tail - A designated track, auxiliary to the main track, used for train storage, reversing direction or other purposes.

Track, Test - A section of track, within defined limits, over which train tests are conducted or other rail vehicles operate.

Track, Turnback, Pocket, Connector or Controlled Siding - A designated track auxiliary to the main track for limiting the run of a train or for other purposes.

Track, Yard - All tracks within yard limits used for storage of rail vehicles, repairs and other purposes as prescribed by the rules.

Traffic - Movement of trains over a main track. There are two types of traffic:

a. Normal traffic - Movement of train over a main track in the direction prescribed by the rules for that track.
b. Reverse traffic - Movement of trains over a main track in the direction opposite to that prescribed by the rules for that track.

Trailing Movement - The switch points face away from the approaching train.

Train - One or more rail vehicles combined into an operating unit, with headlights displayed to the front and taillights/marker lights to the rear.

Train Length - The number of rail cars in a train, specifically its overall length in terms of operating vehicle units.

Train Operator - The employee having direct control and responsibility for the safe movement of the rail vehicle.

Train Order - A written set of instructions in proper format which indicates instructions given by the Test Controller affecting train and/or maintenance equipment movement. A Train Order can only be annulled or fulfilled.

Trainline - Electrical and pneumatic functions routed through and between cars by means of couplers so that signals may be transmitted to all cars of the train.

Transfer Tracks - The tracks within the yard limits that connect the mainline tracks to the yard tracks.

Truck - The underframe containing the wheels, motors and braking components of the rail vehicle.

WIDS - Wayside Intrusion Detection System

Wayside Restriction - Operating instructions given to employees advising of conditions in the track area (mainline and yard) affecting the operation of rail vehicles. The restricted areas with defined limits could be the result of track allocation, work permits, emergency conditions or special orders which restrict train movements. Power removal is not required for the completion of work.

Work Permit - A written order issued by the Test Controller for work on the mainline or by Yard Control for work within the yard, authorizing work to take place on or about any track within specified time and space limits. Power removal is not required for the completion of the work.

Work Train - Non-revenue service train used to assist in on-track maintenance or for other purposes.

Yard Controller - The designated employee on duty at the division yard with absolute authority over all movements within the yard.

Yard Limit Sign - Placed at a specific location between the tracks to denote the separation between the yard tracks and the mainline tracks.

SECTION IV: **SIGNALS**

HAND SIGNALS

200 Hand signals may be given by a hand-held flag or light of the prescribed color. A white light will be used during hours of darkness, in tunnels, or when required by poor visibility.

201 The speed with which a hand signal is given indicates the relative speed with which compliance is desired.

202 Hand signals must be clearly given in the prescribed manner while facing the Train or Vehicle Operator. If you observe a hand signal that is unclear you must stop.

203 Employees must not use a red flag or red light for a "proceed" signal. Train Operators must not accept a "proceed signal" given by anyone using a red flag and/or light. Train Operators receiving such a signal must stop, notify the Test Controller and follow instructions.

204 Employees giving hand signals must locate themselves so that the signals will be clearly understood and repeat the hand signals until acknowledged by the Train or Vehicle Operator. Operators must ensure the signals are intended for them.

205 Operators must stop for anyone waving violently on or near the trackway.

206 The disappearance of a hand signal governing the movement of any track equipment or rail vehicles, including pushing or backing, must be regarded as a "stop" signal. Employees must assure visibility of hand signals before moving the train.

207 Hand signals or a flag/light moved the same as a authorized hand signal gives the following indications:

	Aspect	Indication	Example
a.	Facing Operator swing arm horizontally	Stop	

b.	Facing Operator with arm extended at right angle, make slight vertical movements with closed hand	Reduce Speed	
c.	Facing Operator raise and lower arm vertically	Proceed	
d.	Facing Operator swing arm slowly in a circle	Back Up	
e.	Facing Operator swing arm horizontally across the body above the shoulder, when car is standing	Apply Brakes	
f.	Facing Operator arm held vertically above shoulder when car is standing	Release Brake	
g.	Facing Operator with arm fully extended,swing arm from above the head to shoulder high position	Lower panto-graph	

h.	Facing Operator with arm fully extended,swing arm from a shoulder-high position to above the head	Raise panto-graph

208 Flagging Signal Appliances of the prescribed color will be used to display the following aspects and indications:

	Aspect	Indication
a.	Red	Stop.
b.	Yellow	Caution; proceed at restricted speed prepared to stop at next signal or flagperson.
c.	Green	Resume authorized speed.

FIXED SIGNALS -

209 Fixed signals of various types are installed at specific locations to promote safe operations and to call attention to unusual situations. Train Operators must be completely knowledgeable of the indications and observe all aspects governing train movement.

210 Fixed signals which are damaged, missing, or displaying an improper or dark indication must be considered in the most restrictive aspect. The Train Operator must report the condition to the Test Controller immediately and follow orders.

211 Fixed signals apply to trains running in both normal and reverse direction of traffic.

212 Flags or lights of the prescribed colors must be used as temporary fixed signals when required on the trackway by the rules and procedures.

Indication

a. RED FLAG
Stop, track out of service. Call Test Controller. Red Flag/Light Signal is clamped to the left running rail at a safe stopping distance in both directions from the work area.

b. BLUE FLAG
Personnel working on or about the train shall be governed by the blue flag protection rules. Blue Light/Flag may be attached to the car, or left running rail utilizing the appropriate flagstaff.

c. SLOW SIGN
Reduce speed, in advance of a restricted speed area.

d. RESUME SIGN
Resume speed, following a restricted speed area after lead operating cab passes sign.

e. SPEED SIGN
Reduce speed to that indicated on sign. Signal is displayed at an appropriate braking distance in advance of a restricted speed area.

f. YARD LIMIT SIGN
Placed at a specific location between the tracks to denote the separation between the yard tracks and the mainline tracks and the authority that governs each area. Train Operator will stop at the yard limit sign and contact the appropriate Test Controller.

g. HORN SIGN
Train Operator will sound the authorized horn signal, as required, by operating conditions when the cab is at this sign.

h. APPROACH SIGN
When operating with ATP bypassed apply brake and be prepared to stop at the Interlocking Signal or Red Flag

i. MILEPOST SIGN
Specific location on the mainline to be used as a reference point when reporting incidents, accidents or train problems.

j. NO CLEARANCE SIGN
Indicates to employees that no clearance exists between fixed wayside structures or appliances and a moving vehicle operating on the track structure.

Aspect: Yellow Stripes, Black Background
Indication: No Clearance Area

k. SHOP LIMIT SIGN
STOP. Proceed as signalled by shop maintenance personnel.

l. FOULING MARKER
A yellow cross-tie or strip between running rails beyond which vehicle movement or storage of a rail vehicle will interfere with movement on a nearby track (yard only).

m. COAST SIGN
Begin coasting through section insulator at this sign .

n. POWER SIGN
Power position may be resumed at this sign.

214 Interlocking

Green Line - Mainline

Aspect	Indication
Red	STOP! Call Test Controller. Permission to pass Stop Signal granted with Clearance Card only.
Flashing Red	STOP, Interlocking Block occupied. Proceed "On Controller's Orders". Be cautious and prepared to stop short of train, broken rail, misaligned route or other obstruction.
Green	Proceed on Cab Signal normal traffic straight route aligned and locked.
Flashing Green	Proceed on Cab Signal and/or Controller's orders, reverse traffic straight route aligned and locked.
Yellow	Proceed on Cab Signal and/or Controller's orders, normal traffic diverging route aligned and locked.

Flashing Yellow	Proceed on Cab Signal and/or Controller's orders, diverging route aligned and locked.

Green Line - Yard

Green	Proceed on proper yard route with Yard Controller's authorization.
Red	STOP. Call Yard Controller. Permission to pass by Stop Signal granted with Clearance Card only.

SPACE NOT USED.

215 Bumping Post

Aspect	Indication
Red	Stop. Impassable track zone or Bumping Post ahead. Do not move beyond this point under any circumstances.

CAB SIGNALS

216 Cab signal rules are in effect for normal and reverse mainline traffic movements in designated cab signal territory.

217 Cab signals are located on the Train Operator's console and are correlated to speedometer indications.

218 Cab signal aspects are displayed by an arrangement of sequential colored lights on the Train Operator's console, indicating the maximum authorized speed.

219 When cab-signal and fixed-signal indications conflict, the most restrictive will govern. The Train Operator must notify the Test Controller immediately.

220 A Stop-and-Proceed mode of train operation will be used in cab signal territory only when authorized by the Test controller for the following:

a. Movement of a Rescue Train into a block occupied by a disabled train.
b. Cab signal failure.
c. Adding or cutting cars during consist changes.

221 Cab Signal aspects and indications:

Aspect	Indication
Green	Operate at not more than 55 mph
Orange	Operate at not more than 45 mph
White	Operate at not more than 35 mph
Blue	Operate at not more than 25 mph
Yellow	Operate at not more than 10 mph
Red	Stop
Red/Overspeed	Cab Signal speed has been exceeded

222 Automatic Train Protection (ATP) functions are as follows:

Aspect	Indication
Green	Cab signal mode selected and the button depressed.
White	Street running mode selected and the button depressed.
Yellow	Stop-and-Proceed mode selected and the button depressed.
Red	ATP system has been manually bypassed.

223 While in cab signal territory, the cab signal mode must be used, unless otherwise authorized by the Test Controller.

224 Reserved for future use.

225 While in the yard or on the Green Line connector track, the Stop-and-Proceed mode must be used unless otherwise authorized by the Test/Yard Controller. The Stop-and-Proceed mode may be used outside the yard only with authorization from the Test Controller.

226 The ATP bypass must never be activated without a properly completed clearance card.

227 FLAGGING

Whenever wayside work requires a work permit, wayside restriction, or slow zone orders are in effect on the mainline, proper flag protection will be established in accordance with Test Operations Procedure No. 14, page 96.

The Supervisor or work crew leader will be responsible for the proper placement of the protective flagging devices (flags and flagperson) in accordance with Test Operations Procedure No. 14, page 96.

The Train Operator must be familiar with and obey all flagging rules and procedures.

Train Operators will observe the outer yellow flag placed 1000 feet from the work/slow/impassable zones and must reduce the vehicles speed accordingly to enable the vehicle to come to a complete and comfortable "controlled stop" at the inner yellow/red flag, located 200 feet from the protected area.

Should no flagger be present at the inner yellow flag location the Train Operator will stop the train and then proceed at restricted speed until reaching the green resume speed flag unless receiving a signal to stop.

When a flagger is present, follow the appropriate hand signal from the flagger.

The Train Operator will operate through the work area at a speed dictated by the wayside restriction after a proper hand signal is received. In the absence of a proper hand signal, the Train Operator will proceed at restricted speed or as directed by the Test Controller.

SECTION V: **OPERATING RULES**

RAIL OPERATIONS

300 The Test Controller will have absolute authority for directing and controlling all Mainline operations.

301 The Test Controller and all test personnel must be knowledgeable of all rules and procedures as well as the emergency procedures. The Test Controller must have a working knowledge of all the systems and facilities of the Metro Rail System.

302 Only approved train or hi-rail equipment movements will be permitted. (See Test Operations Procedure No. 1; page 60).

303 No train or hi-rail equipment shall be operated on the Mainline without a written Train Order received from the Test Controller. Procedures for the issuance of Train Orders are specified in Test Operations Procedure No. 3; page 65.

304 When a train or hi-rail equipment is to be operated on the Mainline, the Test Controller will establish a Test Block in accordance with Test Operations Procedure No. 4; page 68.

305 Rail vehicle movement must conform to Test Block Limits, Time of Expiration, Mode of Operation, and other restrictions established in the Train Order.

306 The following applies to employees operating vehicles or other rail-borne equipment on rail lines:

a. Must be in possession of a valid, current certificate of qualification for the type of equipment being operated, Employee Identification Card, and current book of rules.

b. Student Train Operators will be under the direct supervision of a qualified Instructor or other employee designated as qualified to supervise the student operator.

c. At no time will any unauthorized or unqualified individual be allowed to operate any rail equipment within the limits of the Metro Rail System.

307 The Train Operator assigned to the movement of track equipment, car or train has full responsibility for its operation as prescribed by the rules.

TEST OPERATIONS

308 A Train Operator receiving instructions from the Test Engineer that are in conflict with the rules and procedures or train orders must stop the train and report the conflict to the Test Controller immediately and follow instructions.

SPEED

309 Temporary speed signs may be placed at a safe braking distance in advance of restricted speed areas.

310 Train speed will be governed by cab signal indications when operating in cab signal territory, not to exceed the speed designated for a specific section of track.

311 Maximum speed on a Mainline track must not exceed that prescribed by the rules for that track.

312 Speed of any diverging movement through Mainline switches must not exceed five (5) miles per hour, when operating without cab signals.

313 Work trains must operate at a speed authorized by the Test Controller, not to exceed the maximum speed as prescribed by the rules for that track.

314 No part of the train must exceed the authorized speed through a restricted work area. The Train Operator will be governed by the prescribed rules.

TRAIN HORN

315 Train Operators must sound the authorized horn signal as required by the rules and operating conditions.

316 Unnecessary horn sounds are prohibited.

317 Defective horn equipment must be reported to the Test Controller immediately.

318 Authorized audible horn sounds are illustrated by:

a. o = short sound
b. —— = long sound

319 Authorized Audible Sounds:

Audible Sounds		Indication
oo	Two short sounds	Used before moving forward, also to answer all forward moving hand signals.
ooo	Three short sounds	Used before moving backward or uncoupling cars, also to answer a "back-up" hand signal.
oooo	Four short sounds	Used to request a hand signal.
— —	Two long sounds	Used when approaching and passing stations where no stop will be made;approaching and passing persons on or near the tracks; approaching sharp curves, or other locations where vision is obscured.
— —o—	Two long one short one long sounds	Used as a warning when approaching at grade crossings.

HEAD-LIGHTS/TAIL-LIGHTS

320 Rail vehicles entering or operating on Mainline tracks must display white headlights and amber marker lights to the front and red taillights and red marker lights to tha rear.

321 All rail vehicles, so equipped, must have tha headlights/cyclops lights on during all hours of operation.

322 Train Operators shall use high beam headlights at all times except:

a. When approaching oncoming trains.
b. Operating in the yard.
c. When the safety of the public or employees requires the use of low beam lights.

TRAIN OPERATOR RESPONSIBILITIES

323 Final responsibility for safe operations rests with the person operating the train. Operating rules, train orders, or train operating instructions may be reviewed by the Train Operator in the performance of duties while the train is stopped. No other reading material shall be allowed in train cabs.

324 The Train Operator must observe the operational display console's panel indications and report all malfunctions to the Test Controller.

325 Prior to moving a car, train or track equipment, the Train Operator must check all control switches, that are normally sealed, to ascertain that the seals are in place. Seals found broken must be reported to the Test Controller immediately.

326 The Train Operator must not begin movement of the train on the Mainline with broken control seals unless a written Clearance Card is obtained from the Test Controller. (See Test Operation Procedure No 12; page 89).

327 Prior to operating a car or train on the Mainline, the Train Operator must perform a pre-departure inspection in accordance with Test Operation Procedure No. 5; page 70.

328 The Train Operator must not allow unauthorized persons to ride in the cab or on any test train. Persons authorized by the Test Controller to be in the cab or in a test train must not engage in unnecessary conversation or actions which will distract the Train Operator from the proper performance of duties.

329 Train Operators are obligated to perform, but are not limited to the following responsibilities:

a. Must have the appropriate equipment and forms in their possession while on duty.

b. Must have the train under control at all times.

c. Must be at the operator's console prepared to operate the train one minute prior to the train's departure time.

d. Must know the number of cars in the train consist and the leading and trailing car numbers.

e. Must ensure that the correct door control switch is operated when making station stops especially when running reverse traffic.

f. Ensure doors are kept open a sufficient period of time for passengers to get on and off the train safely.

g. Must exercise care that passengers are clear of the doors at all times particularly when running trains in reverse traffic operation.

h. Make appropriate public announcements on board the train.

i. Not bypass any sealed switch without proper authority.

j. Not run through any passenger station without proper authority.

MASTER CONTROLLER

330 The master controller must not be tampered with in any way which prevents the spring-returned-brake safety feature from operating properly.

COUPLING/UNCOUPLING

331 Train Operators shall have the primary responsibility for coupling/uncoupling cars.

332 Train Operators must use care in coupling/uncoupling cars on Mainline or Yard tracks to avoid injury and/or damage to Metro Rail System equipment.

333 Before coupling/uncoupling, care must be taken to ensure that cars being coupled or uncoupled from other vehicles are properly secured and any personnel in or about the cars are notified of the action to be taken.

334 A full stop must be made with approximately ten feet between couplers prior to coupling. A second full stop must be made not more than three feet from the point where the coupling is to be made, and the alignment of the couplers must be checked before attempting to couple.

335 Personnel must never stand between cars at any time, except when conducting manual uncoupling operations as prescribed by Test Operating Procedure No. 10; page 83.

336 Coupling or uncoupling should be avoided on a curve. Coupling on a curve requires assistance from another qualified employee.

337 Do not attempt a coupling/uncoupling action while car(s) that are to be added or cut are in motion.

PUSHING/BACKING

338 Cars or trains must not be pushed or backed unless the controls at the leading end are disabled.

a. When it is necessary to push or back a car(s), authorization must be obtained from the Test Controller.

b. When pushing, the Train Operator must have a qualified person at the leading end of the car or train to watch the track, wayside signals, and switches. This person must constantly keep the Train Operator informed of conditions which may affect the train movement.

c. If communications with the operator or supervisor in the leading car are lost, not understood, or not complete, the Train Operator must bring the train to an immediate stop until communications are re-established, or clarified.

339 When pulling or pushing disabled rail cars a qualified operator or supervisor must be in the disabled car. Movements must not exceed ten (10) mph, unless otherwise authorized by the Test Controller.

340 Live (energized) cars may be used to move dead (de-energized) cars with traction motors or brakes cut out at a minimum one-to-one ratio. The maximum number of cars moved together must not exceed six cars.

341 The train operator must not back up a train except when necessary to uncouple or when specifically instructed to do so by the Test Controller.

OUTSIDE INDICATOR LIGHTS

342 Blue indicator lights, located on the exterior of each cab, indicate one or more vehicle seals and/or bypass switches have been activated. Test operating personnel must immediately report any illuminated blue outside indicator lights on a moving train to the Test Controller.

343 Red indicator lights, located over each side door opening, illuminates when either of the doors are open or unlocked. Test operating personnel must report any illuminated red outside door indicating lights on a moving train to the Test Controller immediately.

DEFECTIVE AIR BELLOWS

344 A car with defective air bellows must not be operated at a speed exceeding 25 mph.

SECTION VI: **MAINLINE OPERATIONS**

TRACK IDENTIFICATION

400 Metro Rail System has two (2) tracks, designated as Number One (#1) westbound and Number Two (#2) eastbound. The most northerly track is track #1.

a. Normal direction of traffic on track #1 is westbound from the I-605 / I-105 Station.
b. Normal direction of traffic on track #2 is eastbound from the Marine Ave. / Redondo Beach Ave. Station.

CHANGING DIRECTION

401 The designated direction of movement on a main track must not be changed without authorization from the Test Controller.

402 Before establishing opposing movements, the Test Controller must ensure that the intended movement is properly understood by all Train Operators involved.

EMERGENCY REMOVAL OF POWER

403 The following will govern when necessary to de-energize the traction power in an emergency:

There are three areas for traction power:
a. Mainline Tracks
b. Yard Tracks (outside Shop buildings)
c. Shops Tracks (inside Shop buildings)

In the event of an emergency, press the Emergency Trip Switch (ETS) immediately, then call the Test Controller. Identify yourself by name, title/occupation, and location. Give the exact area where power has been removed, state that the Emergency Trip has been activated and describe the emergency that justifies the action taken.

The person who activated the power removal is the only person authorized to notify the Test Controller when it is safe to restore power. Should the person who caused the power removal be required to leave, they must advise the Test Controller of the individual designated the responsibility for authorizing restoration of power to the affected area.

Upon receiving authorization to restore the power, the Test Controller will advise the Power Supervisor that it is safe to restore power to the affected area. When the Power Supervisor is prepared to restore power, the Test Controller will authorize release of the Emergency Trip Push Button from the lock-out position and issue a "Power On" request.

SWEEP TRAIN

404 The sweep train must be operated at a speed which enables it to stop short of any trespasser, obstruction on the track, damage to track, overhead catenary or wayside signals, open crossing gates, improperly lined switches, or any condition which could be hazardous to the operation of trains. Should any hazardous condition exist the train must be stopped and the condition reported to the Test Controller.

STATION STOP

405 Train Operators must make a station stop at all passenger stations on the Mainline unless otherwise authorized by the Test Controller.

a. When a Train Operator is ordered to bypass a passenger station, the train's speed shall not exceed **25 MPH** while moving through the station platform area. An appropriate P.A. announcement will be initiated on the train by the Train Operator to inform the passengers and the persons on the platform.

LOCKING CAB

406 Doors and windows of inactive cabs must be closed and locked whenever the cab is not in use. Cab door and windows may be open when the Train Operator is occupying an active cab.

407 Before leaving the cab in a situation considered abnormal, the Train Operator must request permission from the Test Controller, report the vehicle's location, the reason for leaving the train, and the estimated return time.

408 When permitted to leave the cab, Train Operators must take the radio and keep it in their possession at all times. Secure the train against moving, remove the master controller key and lock the cab door. If conditions require that the cab door remains unsecured, the Train Operator on returning will check the position of the switches and controls in the cab before resuming train movement.

TRACKWORK AND/OR REMOVAL OF POWER

409 Permission must be obtained from the Test Controller before entering, working adjacent to, or fouling any track and/or de-energizing any section of the traction power. If the work does not require train speed to be reduced, "flagging" rules may not apply. In these instances, hand signal rules will apply.

410 Personnel engaged in work activities on or about the track, as approved on the Track Allocation Notice, must be provided with flag protection.

411 The Test Controller may permit a specific individual to use or foul a track and/or remove power at or between specific locations.

a. Authorization will be granted for a specific period of time. The time period must not be exceeded without further authorization from the Test Controller.

b. When the request includes removal of power, the Test Controller must not grant authorization for work until power has been removed, the section tested to assure power removal is complete and grounds have been applied to the overhead catenary.

412 After receiving authorization from the Test Controller, working limits must be protected by displaying signals and flags in accordance with the rules.

a. The individual who requested the authorization must notify the Test Controller when the protection signals are in place. Work may then begin.

413 The individual who received authorization must report completion of the work, that all personnel are clear, and that the removal of all protection signals and grounding devices is completed ,to the Test Controller.

a. When power is removed, the Test Controller may then order restoration of the power.

TEMPORARY SPEED RESTRICTIONS

414 When conditions require that train speeds be reduced, the Test Controller must be advised by the person requesting the speed restriction of the allowable speed limits and the section of track affected, and if the restriction will affect both tracks.

415 In order to protect the area in which speed is reduced, "slow" orders must be implemented and appropriate flags utilized in accordance with flagging rules.

416 All trains will be notified of the track limits in which speed is reduced and the maximum speed permitted while moving through the restricted area.

417 Only the person imposing the temporary speed restriction or their designee may remove the restriction.

418 Speed limit signs or flags will be placed at a safe braking distance in advance of restricted work areas in both directions (i.e., normal and reverse traffic) in accordance with Test Operations Procedure No. 14, page 96.

419 A Flagperson will take up a position at least 200 feet in advance of the protected area where they can be clearly seen by approaching Train Operators. Only the Flagperson is authorized to give a "proceed" signal to the Train Operator.

420 Reserved for future use.

421 Flags of prescribed color will be used between sunrise and sunset. When visibility is reduced lamps will be used along with flags.

422 When operating in flag-protected track areas, the Train Operator must:

a. Approach the designated work area at restricted speed. At the first sight of a Flagperson, the Train Operator must acknowledge the presence of the Flagperson by sounding the horn as prescribed in the rules.

b. Bring the train to a full stop short of the Flagperson. Do not proceed if the workers fail to move to a point of safety or if the Flagperson does not give the "Proceed" signal.

c. Upon receiving a "Proceed" signal, acknowledge by sounding the horn and proceeding at restricted speed, as prescribed by the rules.

TRACTION POWER

423 Only the Test Controller can authorize traction power for the overhead catenary system be de-energized, or energized, in accordance with Test Operation Procedure No. 7; page 74.

424 Reserved for future use.

425 Any Traction Power Substation that cannot be de-energized by an Emergency Trip Station must have an employee at the substation when the overhead catenary is energized. The employee must be knowledgeable about the operation of the substation and follow instructions from the Test Controller.

426 A lock or approved blocking device and a DO NOT OPERATE tag must be applied to breakers, disconnect switches, or push buttons governing the power supply to track sections de-energized for work crews, defective equipment, or other purposes.

427 A push button, disconnect switch or breaker having a lock or approved locking device and a DO NOT OPERATE tag must not be operated.

SECTION INSULATOR

428 Signs will be placed in advance of a section insulator and beyond the insulator.

429 Train Operators must not power the train through the section insulators on mainline tracks.

AUTOMATIC TRAIN PROTECTION (ATP)

430 Automatic Train Protection shall be cut in and sealed at all times for movements governed by cab signals, except when authorized by the Test Controller.

431 When ATP and/or cab signals fail, the Test Controller must be notified immediately. The Test Controller may authorize ATP to be bypassed and the train to proceed governed by fixed signals, operating at reduced speed or as otherwise ordered by the Test Controller.

IRREGULAR STOPS

432 The Train Operator of a train stopped by a zero cab signal or loss of power must contact the Test Controller immediately.

433 Reserved for future use.

434 Reserved for future use.

435 Reserved for future use.

FLARES

436 Train Operators observing a flare burning between the running rails or adjacent to their track must stop, notify the Test Controller and follow instructions.

437 Reserved for future use.

438 Reserved for future use.

439 Reserved for future use.

REVERSE TRAFFIC

440 The Test Controller is the only person authorized to direct rail equipment to operate in the reverse traffic direction on the Rail System.

441 Before operating reverse traffic, the Train Operators involved must have a clear and proper understanding with the Test Controller as to where the train will be routed back to normal traffic. The Test Controller must not change this understanding without first contacting the Train Operators to assure full understanding of the change.

INTERLOCKINGS

442 Interlocking controls must be kept in automatic control unless otherwise required by operating conditions.

443 Interlocking controls must not be operated so as to cause a conflict in commands to wayside interlocking equipment governing the operation of any switch, signal, or traffic block.

444 When a route is established through an interlocking for an approaching train, the route must not be changed until the train is stopped at the interlocking signal governing the route and the Train Operator is properly instructed.

445 Prior to changing any route through an interlocking, it must first be established that the train is clear of all switches associated with the interlockings.

446 The Train Operator must stop the train before passing a "Stop" indication on an interlocking signal and must not move until the indication to "Proceed" is displayed. If the indication fails to change within one minute, the Train Operator must call the Test Controller.

STOP SIGNAL

447 A train must not pass an interlocking signal that is not illuminated or displaying a "Stop", except as authorized by the rules.

a. Train movements governed by valid cab signals will proceed according to the cab signal indication at an interlocking signal that is not illuminated. The Train Operator will report the condition to the Test Controller immediately.

b. Trains may pass an interlocking signal not illuminated or displaying a "Stop" when authorized by the Test Controller and only after receiving a Clearance Card. As specified in Rule #448 and Test Operations Procedure No. 12; page 89).

c. The Clearance Card must be properly completed by both the Test Controller and the Train Operator. The Test Controller must ensure that the intended movement is completely understood by the Train Operator before the Test Controller authorizes movement and gives a "Time Repeated" to the Train Operator.

CLEARANCE CARD

448 The Clearance Card, when properly filled out, authorizes a Train Operator to operate the train or a rail vehicle with sealed switches in the bypass mode or to pass an interlocking signal displaying a "Stop" indication.

a. Trains must be stopped at interlocking signals which can not be cleared befora the Test Controller will issue a Clearance Card.

b. A separate Clearance Card must be issued for each interlocking signal to be passed, unless otherwise prescribed by the rules.

c. A Clearance Card may authorize a train to pass two (2) specific interlocking signals within the same interlocking to allow for one continuous movement.

d. The Train Operator must personally complete the Clearance Card as directed by the Test Controller.

e. The Clearance Card is invalid until the Train Operator receives a "Time Repeated" from the Test Controller.

f. The "Time Repeated" will not be given by the Test Controller until the Train Operator has correctly repeated the completed Clearance Card and given an accurate summary of the instructions and verbal orders to the Test Controller.

PASSING A STOP SIGNAL

449 When authorized to pass a signal displaying "Stop" and enter a block behind another rail vehicle, movement must proceed as prescribed by the rules. The following movements will be made at restricted speed, unless otherwise ordered by the Test Controller.

a. Any opposing movement into a block past an interlocking signal displaying "Stop" is prohibited, except to assist a completely disabled train and then only after the Train Operator of the disabled train has been instructed not to move.

b. No opposing movement will begin until all Train Operators involved have a full and complete understanding of their orders as issued by the Test Controller.

450 The Train Operator must stop the train and immediately report to the Test Controller an unauthorized passing of a "Stop" indication displayed on an interlocking signal. Stating: the train number, location, interlocking signal number and direction of travel. The Train Operator must await instructions from the Test Controller and submit a written report to the LACMTA/RCC Manager of Rail Activation on the day of the occurrence.

451 When the Test Controller is aware that interlocking signals on the test track are not operational or are out of service, the order will be given to cover those signals with a signal bag. Switches for signals that are bagged must be blocked and clamped in the appropriate switch position. The Test Controller will keep records of which signals are bagged and when switches are blocked and clamped.

452 Before starting a crossover movement on the Mainline without signals, the Train Operator must ensure that the switches at the crossover are properly aligned, blocked and clamped. The crossover move must be completed before the switches are restored to their proper position.

453 Employees must not change the position of a Mainline switch unless directed by the Test Controller. See Test Operations Procedure No. 8 page 79.

454 Trailing a switch point set against the move must not be made through switches unless otherwise prescribed by the rules.

455 Rail cars or hi-rail vehicles must not be operated through any interlocking when it is observed that the switch points or other parts of a turnout or crossover are damaged. The Test Controller must be notified immediately.

456 Sand must not be used over switches unless an emergency stop is required.

LOCAL CONTROL PANELS

457 Local Control Panels shall be key-locked to the central automatic position unless otherwise required by operating conditions.

458 Local Control Panels shall not be taken out of central automatic position without specific authorization from the Test Controller.

459 All interlocking controls operated from a Local Control Panel shall only be operated under the direction of the Test Controller.

460 Approved blocking devices must be applied to switch and/or signal controls when prescribed by the rules.

461 A control with a blocking device applied must not be operated nor the blocking device removed until it is safe to do so.

a. Blocking device shall be applied to signal controls governing access to a track where an absolute block has been established.

b. Blocking device must be applied to any defective interlocking control or any control governing the use of an out-of-service track.

c. In both of the above conditions, wayside signals governing the use of the track will be placed in manual operations, "Stop" displayed in both directions to approaching trains or other rail equipment.

WRONG ROUTE

462 If mis-routed, a Train Operator must stop the train short of the signal governing the route, call the Test Controller, and follow the instructions given.

DIVERTING A TRAIN

463 Before diverting a train from its prescribed route, the Test Controller must ensure that the train is stopped at the interlocking signal governing the diversion route and the Train Operator has been properly instructed.

OPPOSING MOVEMENT

464 Opposing movements must not be made within an interlocking unless required by testing or emergency operating conditions. Before establishing opposing movements, the Test Controller must ensure the intended movement is completely understood by all Rail Operators involved in the movement.

ABNORMAL ROUTE

465 Movements within an interlocking for which a signal cannot be displayed must not be permitted, except in an emergency.

When authorized by the Test Controller, train movements may proceed on proper hand signals over a route within an interlocking for which a signal cannot be displayed. Speed of movement must not exceed **5 MPH.** Switch points must be blocked and clamped.

PARTIAL/TOTAL SIGNAL FAILURE

466 In the event of partial or total failure of both the cab and interlocking wayside signals, trains will operate governed by the rules and the Test Controller's orders.

a. Trains will be governed by proper hand signals at interlockings. Absence of a hand signal will indicate "STOP". Clearance Cards will not be issued.
b. Trains will proceed after stopping, through and between interlockings at not to exceed "restricted speed". Train Operator's will be prepared to stop within one half of the Train Operator's range of vision.

EMERGENCY STOPS

467 All emergency stops must be immediately reported to the Test Controller.

REFLECTIVE VESTS

468 Employees whose duties require working and/or walking on or in close proximity to any track must wear a reflective vest except in emergencies or in the yard.

USE OF WAYSIDE EQUIPMENT

469 Any equipment, such as switch cranks, switch irons, or other wayside equipment, must be stowed in their proper location upon completion of use.

OPERATIONS AT THE BLUE LINE/GREEN LINE NON-REVENUE CONNECTOR

470 Trains on the pocket track of the non-revenue connector track, enroute to the Blue Line Yard, shall, before descending ramp, stop and hold, call Test Control and follow the instructions given.

471 Trains shall be operated on the descending ramp and curve of the non-revenue connector track at a speed not to exceed 5 MPH.

472 Trains shall be operated on the ascending ramp of the non-revenue connector ramp at a speed not to exceed 10MPH.

OPERATIONS ON THE BLUE LINE

473 The appropriate Blue Line Rules and Procedures will apply when operating on the Blue Line.

SECTION VII: YARD OPERATIONS

YARD LIMITS

501 All tracks west of the "Begin Yard Sign" are considered yard tracks (see diagram of yard for authorized names, important areas, and track numbers - Page 57).

AUTHORITY FOR YARD MOVEMENTS

502 The Yard Controller issues all instructions for Yard movements.

503 The Yard Controller will ensure that Yard movements do not interfere with trains entering or leaving the Yard to and from the Mainline track.

504 Trains may not enter the Yard from a Mainline track until instructed to do so by the Yard Controller.

FOULING MARKERS

505 All yard/storage tracks where tracks merge have a fouling marker located between the rails which is designated by a cross-tie painted yellow. Rail vehicles must not be stored beyond this marker to avoid obstructing the yellow cross-tie or movements on any adjacent track.

506 Yard movements must stop short of the fouling marker when necessary to clear other yard movements. Where movements conflict, all Train Operators must stop short of fouling markers until they have a clear understanding of the order of movements.

YARD MOVEMENTS

507 Stop-and-Proceed mode must be used whenever operating in the Yard.

508 Rail vehicles must not exceed 10 MPH within the yard. They must be prepared to stop for other rail vehicles, obstructions, persons, improperly lined switches, fouling markers or track defects.

509 Speed inside Shop buildings shall not exceed **5 MPH**.

510 All rail vehicles must make a full stop before entering any Shop building. After receiving a proper hand signal, the Train Operator must sound the gong before proceeding into the Shop.

511 Train Operators must report any abnormal conditions to the Yard Controller and follow the Yard Controller's instructions.

512 Train Operators will report to the Test Controller any inoperative headlights, taillights or marker lights. The Test Controller will issue operating instructions.

513 Train Operator must not pass the "Yard Limit" sign and enter the Mainline track without permission from the Test Controller.

STORAGE OF CARS

514 All cars being stored must be properly secured with parking brakes applied, keys removed and doors locked. Cars on grades or cars with inoperative parking brakes must be stored with at least one wheel chocked in the down-grade direction. The Yard Controller must be made aware that the rail vehicle has been chocked.

515 Train Operators storing trains in the Yard must stop the train so that couplers are approximately ten (10) feet from those of other trains.

516 Train Operators must never leave a car(s) standing in contact with a bumping post.

517 Switches, tracks, roadways and walkways must not be fouled when storing rail vehicle equipment.

YARD SWITCHES

518 The locations of Yard switches are illustrated on the Yard diagram on page 57.

519 Yard-switch-facing and trailing movements are activated by a post mounted push-button control box for power-operated switches or by hand-throw mechanisms for hand operated switches, when authorized by the Yard Controller (MBL Yard).

520 Yard-switch-facing and trailing movements are activated by the Yard Controller or hand throw when the switch fails electrically, but only when authorized by the Yard Controller (MGL Yard).

521 The Train Operator must contact the Yard Controller for instructions when a dark unlock light is encountered on a push-button route selector or control box (MBL Yard).

522 Yard, hand and power switches are equipped with yellow and green reflective targets. **"Green"** targets will be displayed when the switch is aligned "normal" for lead or through movement. **"Yellow"** will be displayed when the switch is aligned "reverse" against the lead or for diverging movement. White plastic letters "N" and "R" are located on the cross-tie at the switch points to distinguish "normal" and "reverse" lead movements.

523 Train Operators must not make facing or trailing movements through Yard switches unless the switch points are properly aligned for the desired movement and switch points properly fit the stock rail.

ENTERING/LEAVING SHOPS

524 Train Operators must conduct a ground inspection of the vehicle and inform other employees in the area before moving the vehicle.

525 Within the Shop limits, train movements are governed by the Rail Equipment Maintenance Supervisor or authorized designee.

526 Reserved for future use.

527 Shop doors must be fully opened and a safety stop made at the Shop door before operating cars or equipment into, or out of, the Shop buildings.

528 Before moving a train forward when entering or leaving the shop, a Train Operator must sound the gong as prescribed by the rules, after receiving the proper hand signal.

529 Train Operators must contact the Yard Controller before moving the train out of the Shop.

PROTECTION OF PERSONS WORKING ON CAR(S)

530 A blue flag or blue light, displayed at both ends of a rail vehicle or on the track, is an indication that employees are on or about the vehicle. A rail vehicle so protected must not be coupled to, or moved. Other rail vehicles must not be placed where they obstruct the view of blue signals in any way without the Test Controller notifying and requesting permission from the workperson in charge to place the new arriving train behind the work party. The workperson will then place the Blue Flag behind the new train. (Test Operations Procedure No. 6; page 72).

a. The blue signals must be placed where they are plainly visible, at a safe distance from the train. Blue flags will be used by day. Blue lights alone or with blue flags, will be used at night, or whenever visibility dictates.

b. Employees on rail vehicles protected by blue signals must verbally be notified when the signals have been displayed or when removed.

c. Only the employee who placed the blue flag, or their designee (if more than one shift is involved), can remove the blue signals.

d. The Yard Controller must be notified when blue flags are displayed and when removed, and must record this information in the Daily Log.

SECTION VIII: COMMUNICATIONS

600 Employees using the radio must be certain a clear channel is available except in an emergency. They must identify themselves by train number or call sign. Messages must be repeated when necessary to assure a proper understanding.

601 Train Operators will activate the portable radio when leaving the active cab in order to maintain continuous communications. Disabled radio equipment must be reported to the appropriate Controller.

602 All radio transmissions must comply with Federal Communications Commission rules.

603 The appropriate Controller will be the base for all communications.

604 Employees must not use discriminatory or profane language, false or deceptive transmissions.

605 Unnecessary use of radio communication is prohibited. Conversations or announcements must be brief, business-like and to the point. Communication equipment must be used only for rail system business.

606 Communications pertaining to emergencies take priority. Falsely labeling a communication as a emergency is strictly prohibited.

607 Emergency messages may be transmitted over the most expedient means of communication, consistent with clear understanding.

608 All communications will be conducted on the assigned channel unless otherwise directed by the Test Controller. A communication in progress must not be interrupted except in emergency.

609 Employees must ensure that radios used during their shift are continuously activated, on the proper channel, and set at sufficient volume to receive all transmissions clearly.

610 When a Train Operator loses radio communications, they must stop and report promptly to the Test Controller by other means.

611 The Test Controller will monitor and record communications from the test track area concerning test runs, inspections, emergencies and requests pertaining to test operations.

612 The use of any sort of unauthorized audio or visual device while on duty, except when authorized for special events or instructional purposes, is strictly prohibited.

613 When initiating an emergency radio transmission it should be in the following manner: ("Emergency, emergency, emergency. Train No.____ or Employee No.____ "). State reason for emergency transmission. The Test Controller will give priority to emergency calls. All employees and trains receiving the emergency transmission will clear the radio channel immediately and approach the emergency location prepared to stop and proceed pass the emergency location at restricted speed, if required.

SECTION IX: **SPEED**

700 Unless otherwise indicated with a more restrictive speed, maximum allowable train speeds are as follows:

Maximum Speed	Location
5 mph	on Shop Tracks, on all curves in the Yard, on the curve on the Green Line Connector Track and the Green Line Connector Track when descending.
10 mph	in the Yard, tail tracks, other auxiliary track and the Green Line Connector Track when ascending.
55 mph	in Cab Signal Territory.

NOTE: Train Operators must observe all speed restrictions until the entire train is clear of the restricted speed area.

SECTION X: **MOVEMENT OF TRACK CARS**

800 A foreperson or track car driver will be in charge of the track cars under their jurisdiction and will be governed by Rules and Procedures that apply to trains except as modified by Rules 800 through 805. Foreperson or track car driver must be qualified on the Rules and Procedures for Conducting Test Operations. Flagperson is required for any back-up moves.

801 The foreperson or track car driver must perform a visual inspection to see that the track car is in safe operating condition before being operated. Track cars must not be operated if found in an unsafe condition.

802 Track cars must display a white light to the front and a red light to the rear when visibility is restricted, passing through tunnels and at night.

High rail vehicles must have headlights on high beam when moving on any track.

803 Track cars must not trail through switches unless switches are properly lined, blocked and clamped.

804 Track cars must not be placed or operated on a track that is under direction of the Test Controller without a Clearance Card.

805 The following maximum speeds apply to the movement of track cars:

High Rail Cars:

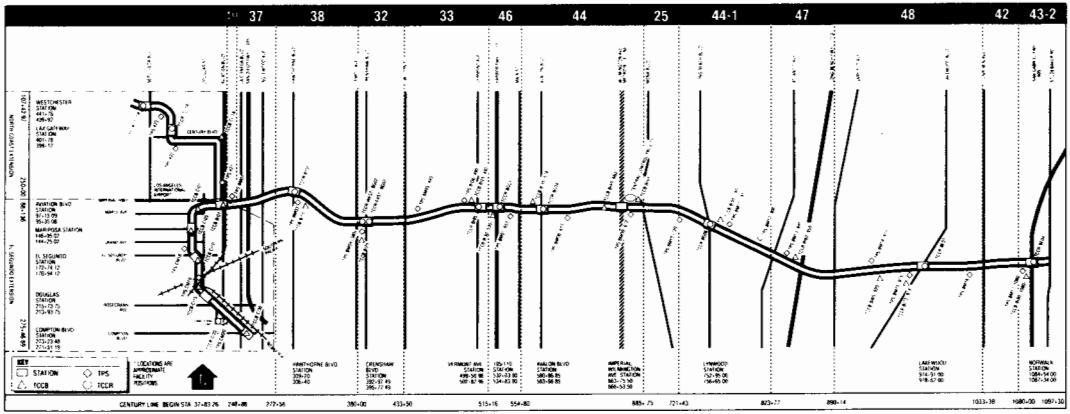
Maximum Speed	Movement
Passenger Type:	
35 MPH	Forward
10 MPH	Back-Up
5 MPH	Through switch components
Truck Type:	
30 MPH	Forward
10 MPH	Back-Up
5 MPH	Through switch components

All Other Track Cars:

30 MPH	Forward
10 MPH	Back-Up
10 MPH	When passing standing trains on adjacent tracks.
10 MPH	When pulling or pushing track cars or trailers.
5 MPH	Through switch components
STOP	When being passed by a train on an adjacent track.

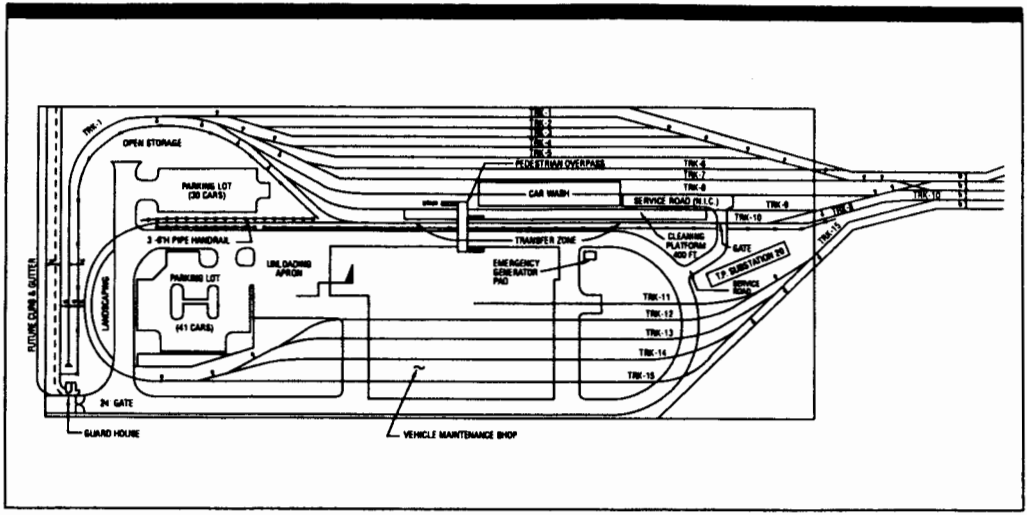
METRO GREEN LINE *Norwalk-El Segundo Rail Transit Project*

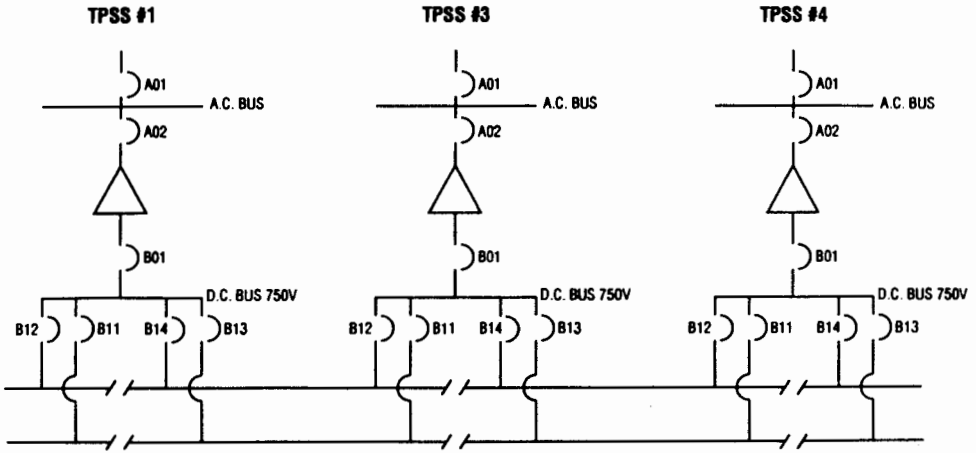
O'Brien-Kreitzberg



METRO GREEN LINE
Norwalk-El Segundo Rail Transit Project

HAWTHORNE YARD & SHOP




TPSS #1
TPSS #3
TPSS #4
A01
A.C. BUS
A02
B01
D.C. BUS 750V
B12
B11
B14
B13

TEST OPERATIONS PROCEDURES

FOR

CONDUCTING TESTING

OF THE

METRO RAIL SYSTEM

TEST OPERATIONS PROCEDURE NO. 1

I. TITLE: **TRACK ALLOCATION NOTICE**

II. PURPOSE

Track Allocation meetings will be held on Thursday of each week and will develop a schedule in the form of a Track Allocation Notice which allows both construction/installation operations and testing activities to be coordinated and accomplished safely and efficiently. Anyone requiring track time must attend the Track Allocation Meeting and make their work requirements known to allow for proper scheduling.

III. REQUIREMENTS

1. Red Tag Areas will be defined every Thursday at the Track Allocation Meeting and distributed to all RE's, Contractors, LACMTA and employees engaged in construction, equipment installation or testing activities on the Metro Rail System. It will be the responsibility of each of the above to assure all of their employees are aware of the weekly change affecting their staff.

2. Contractors or others desiring to perform any work or tests in the Red Tag Area must submit track occupancy and access requirements on the Allocation Request form by Tuesday at 5:00 P.M. and attend the weekly Track Allocation Meeting on Thursday at 1:00 P.M., location to be determined at previous weeks meeting.

IV. PROCEDURES AND RESPONSIBILITIES

RESPONSIBILITY		TASK
Track Allocation Meeting Chairman	1.	Define and distribute the limits of Red Tag Area to all Contractors and RE's no later than Friday for the following week's work.
Fixed Facility, System RE's, Test Personnel	2.	Submit in writing track occupancy and access requirements no later than Tuesday 5:00 P.M. of the week prior to need. Requirements are to be defined by: civil Stationing Limits; Westbound Track 1 or Eastbound Track 2; Time of day; and traction power needs for each day. An approved request form secured or obtained from the Red Tag office must be used for this purpose.

Track Allocation Meeting Chairman	3.	Prepare the composite schedule of all track allocation requirements on Thursday using the daily approved Track Allocation Notice (one set of Notice Sheets for each day of the week).
Track Allocation Meeting Chairman	4.	Discuss conflicting issues in track occupancy requirements with personnel having specific needs. Attempt to resolve any conflict on a mutually satisfactory basis.
Track Allocation Meeting Chairman	5.	Identify unresolved conflicts in requirements for track usage in the daily Track Allocation Notices for resolution at a Thursday 1:00 P.M. scheduling meeting, should one be required. Assure all Contractors understand the limits of their respective work areas.
Track Allocation Meeting Chairman	6.	Resolve any remaining conflicts and achieve a consensus for each day of the following week listed on the Track Allocation Notice.
Track Allocation Meeting Chairman	7.	Complete draft Track Allocation Notice for each day and copy for distribution by Thursday meeting.
Track Allocation Meeting Chairman	8.	Develop a distribution list as required and retain a file copy of each weekly approved Track Allocation Notice.
Track Allocation Meeting Chairman	9.	Reproduce and distribute copies of the final Track Allocation Notice for the following week by no later than Friday noon.
Track Allocation Meeting Chairman	10.	Prepare Red Tags for the following week based on the Track Allocation Notice.

METRO RAIL PROJECT
Los Angeles County

Track Allocation Request

METRO RAIL TRACK: BLUE LINE ☐ GREEN LINE ☐ RED LINE ☐

CONTRACT #: MEETING DATE/TIME:

CONTRACTOR: OFFICE TEL.# ( ) -

REQUESTED BY: MOBILE TEL.# ( ) -

DAY	DATE	HOURS	LOCATION		POWER DOWN		CREW SIZE
			TRACK	STATIONS	YES	NO	
SUN							
MON							
TUE							
WED							
THUR							
FRI							
SAT							

DESCRIPTION OF WORK AND EQUIPMENT USED

TEST OPERATIONS PROCEDURE NO. 2

I. **TITLE: RED TAG PROCEDURE**

II. PURPOSE

Contractors will be engaged in performing work on the right-of-way with dynamic testing taking place. It is essential that a disciplined procedure be implemented to control access to the property to protect all personnel from the hazards of moving trains and energized traction power.

III. REQUIREMENTS

Contractors and others requiring access to any Test Operations areas for any activity must:

1. Receive permission at the Track Allocation Meeting to perform the activity and be included in the Track Allocation Notice.

2. A contractor/appropriate designated individual will be responsible for securing and returning Red Tags. All Red Tags must be returned daily before power will be restored to the work location. Foreman/appropriate designated individual in charge of work is responsible to ensure all Red Tags are returned.

3. Maintain a portable radio or other means to establish communications with the Test Controller.

IV. RESPONSIBILITIES

1. The Test Controller on a daily basis shall:

   a. Issue Red Tags for approved schedules (Track Allocation Notice).

   b. Maintain a record of all Red Tags issued.

   c. Ensure that all personnel required to work in Red Tag areas understand the procedure and will return all Red Tags daily at the prescribed time and location as required by the Track Allocation Meeting Chairman.

   d. Maintain a visual display board showing all Red Tags issued.

   e. Supervise clearing of the Red Tag log and display board as Red Tags are returned.

f. Maintain contact with the LACMTA/RCC Rail Activation Manager and Start-Up Manager as required.

g. Order power on/off from the Traction Power Supervisor as required.

h. Maintain contact with the Track Allocation Chairman as required.

i. Write Train Orders and instruct and supervise Train Operations on test trains.

2. Contractor, LACMTA, R.E.'s and Test personnel:

a. Obtain Red Tags from Test Controller daily as required.

b. Distribute Red Tags to workers involved in the activity.

c. Return Red Tags to Test Controller daily when all activity is completed, in accordance with instructions.

V. PROCEDURES

1. Contractors and others that have been scheduled to work in the Test Operations Area, per the Track Allocation Notice, will have the designated individual in charge of the work party secure Red Tags from the Test Controller prior to receiving access to the area. One half of a Red Tag will be issued for each person in the work party to the individual in charge. The other half of the Red Tag will be held by the Test Controller at the Red Tag Desk.

2. When the scheduled work has been completed each day, the individual in charge of the work party will return all halves of the Red Tags to the Test Controller. After all the Red Tags distributed that day are matched, the Test Controller will notify all concerned that train testing and/or energizing the traction power system can resume.

3. Work crews in the trackway are subject to challenge by Security and Safety Personnel. When challenged, they must produce the Red Tag, Train Order, or Purple Badge and personal identification authorizing their presence. (See following note)

NOTE: Certain individuals, because of the nature of their work and their knowledge of the activities taking place, will be issued a purple badge (Safe Clearance Identification) which will allow them to be in the Red Tag Area without a Red Tag. Those individuals must keep the purple Safe Clearance Identification badge in their possession and present it to Security or Safety personnel upon request.

4. The designated individual in charge of the work party must be familiar with station locations along the line, so that they can safely locate and mark the limits of the work area. IF THE INDIVIDUAL IS NOT FAMILIAR WITH THE LIMITS, THEY MUST REQUEST AN ESCORT FROM THE TRACK ALLOCATION MEETING CHAIRMAN OR DESIGNEE TO GUIDE THE WORK PARTY TO THE WORK AREA AND MARK ITS LIMITS.

5. It is mandatory that the designated individual secure Red Tags from to the Test Controller prior to entering the work area and return them promptly when the work is completed. Failure to return a Red Tag will seriously disrupt work and test schedules. It shall be the policy of this project that an individual's failure to obtain or return a Red Tag daily shall be cause for discipline up to and including removal from the Metro Rail System Project.

TEST OPERATIONS PROCEDURE NO. 3

I. TITLE: **TRAIN ORDERS**

II. PURPOSE

Train Orders are issued in written form by the Test Controller to protect and govern Test Operation movements of any Yard rail vehicle entering the Mainline. All train or hi-rail equipment movements require a written Train Order. Train Orders protect rail vehicles' rights on dedicated tracks for the purpose of conducting tests, or the rights of other track equipment performing functions on a specific track.

III. REQUIREMENTS

1. No rail vehicle can move on, or occupy, the Mainline without a written Train Order.

2. Train Orders must be issued for each day in the proper format and numbered in consecutive order.

3. Train Orders must be made in duplicate and signed by the Rail Vehicle Operator and Test Controller. The Rail Vehicle Operator will repeat written instructions on Train Orders prior to securing the Test Controller's "time repeated". In order for Train Orders to be valid, the Test Controller's signature and the time, repeated correctly, must be listed on the Train Order.

4. One copy of the Train Order must be in the possession of the Rail Vehicle Operator and one copy must be retained by the Test Controller and maintained in the Test Control files.

5. The Rail Vehicle Operator must read and understand the Train Order issued and remain within the specific limits of track governed by the Train Order. If the Rail Vehicle Operator does not fully understand the Train Order, the Test Controller must be contacted for clarification.

6. Once a Train Order is in effect, it will continue in effect until fulfilled, superseded, or annulled, but no later than 0300 of the day following its issue.

IV. PROCEDURES

1. The Test Controller shall be informed from the Track Allocation Notice and from incoming communications of Mainline moves occurring during their tour of duty . The Test Controller will retain

Train Orders for each move and sign them. Train Orders must not conflict with the Track Allocation Notice.

2. Rail Vehicle Operators will, after reporting for duty, pick up their Train Orders at Yard Control. Prior to entering the Mainline, they must call the Test Controller, repeat the Train Order correctly to the Test Controller before receiving a time repeated.

3. When it is required to issue Train Orders via radio or telephone the following procedures will govern:

   a. The Rail Vehicle Operator will receive the order from the Test Controller via radio or telephone and write it on the approved Train Order form. If a rail vehicle is involved it must be stopped prior to the issue of the train order.

   b. The Rail Vehicle Operator will read back the Train Order correctly to the Test Controller and ask any questions necessary for clarification.

   c. If the Train Order is repeated correctly, the Test Controller will sign his copy of the Train Order and give the Rail Vehicle Operator the following information:

      Order No.
      Signed by (Test Controller's Name)
      At (Time)

   d. The Rail Vehicle Operator shall write the above information on their copy of the Train Order.

   e. Train Order forms will be of standard format for all employees. See Page 67 for the standard Train Order format.

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY
CENTRAL CONTROL FACILITY / TRAIN ORDER

ORDER NUMBER: _____ DATE: ____/____/____

RED LINE ☐ BLUE LINE ☐ GREEN LINE ☐

FROM ____:____ HOURS TO ____:____ TRAIN NUMBER: _____

CONSIST NUMBER: ____/____ : ____/____ : ____/____

OPERATOR NAME: _____ CALL SIGN: _____

OPERATOR NAME: _____ CALL SIGN: _____

TRAIN NUMBER _____ HAS AN: ABSOLUTE BLOCK ☐ PERMISSIVE BLOCK: ☐

BETWEEN _____ AND _____ ON TRACK 1 OR AR

BETWEEN _____ AND _____ ON TRACK 2 OR AL

IF A TRAIN IS AUTHORIZED TO OPERATE WITH A SEALED SWITCH BYPASSED
AN LACMTA CLEARANCE CARD MUST BE ISSUED.

INSTRUCTIONS: _____

RESTRICTIONS: _____

ISSUED BY: _____ DATE: ____/____/____ TIME: ____:____
(CONTROLLER)

READ BACK
ISSUED BY: _____ DATE: ____/____/____ TIME: ____:____
(OPERATOR)

READ BACK
ISSUED BY: _____ DATE: ____/____/____ TIME: ____:____
(OPERATOR)

TEST OPERATIONS PROCEDURE NO. 4

I. TITLE: **TEST BLOCK OPERATION**

II. PURPOSE

Because of the nature of the final acceptance test and/or integrated test activity while construction and installation operations may still be underway, a Test Block is to be established every time rail vehicle testing is performed on the right-of-way, to protect the safety of the test/work crews as well as other employees.

III. REQUIREMENTS

1. Test Blocks will be Absolute Blocks or Permissive Blocks and will be in accordance with the Train Order.

2. Test Block limits will be in accordance with the Train Order.

3. Test Block limits will be marked by red flags or red lights even if interlocking signals are operational in the Test Block.

4. When interlocking signals are operational, the Test Controller will have both interlocking signals in approach to the Test Block set at "STOP" (Red) and in manual control.

5. Non-operational fixed signals within the Test Block will be bagged.

6. The Train Operator upon entering the Test Block will place a red flag (red light at night) at the entering end of the Test Block.

7. The Train Operator will then operate the train to the other end of the Test Block not exceeding restricted speed (operating on sight) and place a red flag (red light at night) at the end of the Test Block.

8. Train movements and test speed within the Test Block will be specified in the Train Order.

9. If the Test Block specified in the Train Order includes both main tracks, the Train Operator will follow procedures specified in 2 through 7 for both main tracks.

10. Upon completion of testing, the Train Operator will notify the Test Controller and follow any instructions given. The Test Controller will record all necessary times.

11. Before leaving the Test Block, the Train Operator will pick up all red flags or red lights and notify the Test Controller when all protection flags/lights are removed. The Test Controller will record the time.

When it becomes necessary, in the event of an emergency or malfunction of the equipment, to send a second train into the Test/Work Block, the following procedure will be followed:

The Test Controller will:

a. Determine the exact location of the disabled Test Train or Rail Equipment in the Test/Work Block. Instruct the Train Operator to remain standing and not move the train or rail equipment. Annul the Train Order for the disabled Test Train/Rail Equipment.

b. Issue the Rescue Train Operator a Train Order which will include the disabled Test Train/Rail Equipment location.

    1) When the Rescue Test Train used is a train already operating under a Train Order, that Train Order must be annulled prior to the issue of the Rescue Train Order.

c. Order a Permissive Block for the Rescue Train or Rail Equipment. The Permissive Block order will direct the Rescue Test Train Operator to move from its present location directly to the disabled Train/Rail Equipment location.

d. The Permissive Block order shall not be issued until both the Test Train/Rail Equipment and the Rescue Test Train Operators have satisfactorily repeated their instructions to the Test Controller and have a full understanding of the required movements.

TEST OPERATIONS PROCEDURE NO. 5

I. TITLE: **PRE-DEPARTURE INSPECTION**

II. PURPOSE

During the Test Operations period, rail vehicles are subject to modifications, retrofits or other work involving many contractors. The number and variety of people working on rail vehicles increases the possibility of overlooking potential hazards to the safety of the Test Crew or to the rail vehicles. The following procedure for a PRE-DEPARTURE inspection must be followed:

III. REQUIREMENTS

Train operators will be responsible for performing a walk-around inspection before moving a rail vehicle from Yard storage tracks or Shop buildings.

IV. PROCEDURES

1. The walk-around inspection will include verification of the following:

   a. The area is clear of all personnel in or around the vehicle.

   b. There are no obstructions or hanging equipment.

   c. All exterior safety appliances are intact.

   d. Couplers and electrical heads are not damaged.

   e. All electrical equipment boxes and skirts are closed and secured.

   f. All dents/scratches on the exterior are reported to the Yard Controller.

   g. Exterior headlights, taillights, and marker lights are on.

   h. Inquire from the Test Engineer (if one is available) about any connections or apparatus which are not a part of the car. If no Test Engineer is available, notify the Yard Controller and follow the instructions.

   i. Check for wheel chocks.

2. Inside the rail vehicle cab, perform the following inspections:

   a. Check all control switches that are normally sealed to make sure the seals are intact. Report broken seals to the Yard Controller and follow the instructions. Check for proper clearance forms.

   b. Ensure that all doors operate properly.

   c. Ensure that brakes apply and release.

   d. Ensure horns, gong, cab lights, and windshield wipers are operating properly.

   e. Perform a radio test by contacting both the Yard and Test Controllers.

   f. Perform a propulsion and brake test before departure.

   g. Report any problems to the Yard Controller.

   h. Ensure safety equipment is on board and properly stored (fire extinguisher, flags, etc.).

   i. Check general condition of seats, rear view mirrors, windows, lights, and interior. Report any damage or problems to the Yard Controller.

TEST OPERATIONS PROCEDURE NO. 6

I. TITLE: **BLUE FLAG/BLUE LIGHT PROCEDURE**

II. PURPOSE

To provide protection for employees working on, under, or about rail vehicles on the Yard or Mainline tracks.

III. REQUIREMENTS

1. Employees performing work between, on, under or about rail vehicles on the Yard or Mainline tracks must provide blue flag/blue light protection according to this procedure and as prescribed by the rules.

2. A Train Operator observing a blue flag/blue light on a track must not operate the train over any track switch leading to the work area without first securing permission from the Test/Yard Controller. The protected rail vehicle(s) must not be coupled to or moved. No rail equipment will be placed where they obstruct the view of the blue flag/light protection in any way without the Test Controller notifying and requesting permission from the workman in charge to place the new arriving train behind the work party. The workman will then place the Blue Flag behind the new train.

IV. PROCEDURES

Employees intending to perform work between, on, under or about rail vehicles on the Yard or Mainline tracks must follow this procedure:

1. The employee in charge must contact the Controller and inform them of the work to be performed, including details such as: name/call sign; rail vehicle number(s); track number/location; and nature of the work.

2. When the appropriate Controller approves the request, authorization must be entered in their log. The Controller must inform the employee that the work is to be performed under the blue flag/blue light protection rule.

3. The employee in charge of the work must place blue flags (during daylight hours) or blue lights (during night) at a safe distance from the rail vehicle(s).

4. Each employee working on the rail vehicle(s) will then place red **DO NOT OPERATE** tags with their name on the manual controller handle in each cab of the train.

5. Only the employee in charge of the work or the authorized designee, will notify the appropriate Controller that the proper flags/lights and tags are in place. The Controller will then authorize the work to begin.

6. Only the employee in charge or designee is authorized to remove the blue flags/lights after ascertaining that all the red **DO NOT OPERATE** tags have been removed from the manual controller handles and all employees are clear.

7. Notify the Controller when the work is finished and all tags, flags or lights are removed.

V. TEST BLOCK PROTECTION

Blue Flag/Blue Light protection, within the limits of a Test Block, is not required for personnel working about or under a vehicle on the Mainline while testing is being conducted. The following procedure, however, will be adhered to when personnel are to work around or under a train when Test Block Protection is available:

1. Employees performing work will inform the Train Operator of the work they will be performing.

2. The Train Operator shall notify the appropriate Controller. The Controller shall stop all other trains within the Test Block until the work is complete and it is safe to continue testing.

3. The Train Operator will set the master controller key switch to the "local" or "off" position on the console prior to the individual going outside to work about or under the vehicle.

4. Only the same employee or an authorized designee initially requesting to perform the work will notify the Train Operator when the work is complete and it is safe to continue testing.

TEST OPERATIONS PROCEDURE NO. 7

I. TITLE: **POWER CLEARANCE AND TRACTION POWER ON/OFF PROCEDURE**

II. PURPOSE

The purpose of this procedure is to safely control the Traction Power Supply System (TPSS) and to establish the procedures that will be followed when a person is working on, or in contact with electrical circuits or apparatus requiring power removal/restoration.

III. REQUIREMENTS

1. The Test Controller will maintain written records in their log of power outages and requests as well as a display board indicating which sections are energized, including the status of all substation breakers for the Test Operations Area being controlled.

2. An employee must request power removal and re-energization through the Test Controller.

3. The circuit or apparatus to be de-energized must be tested and grounded with grounding devices. "OUT OF SERVICE" tags will be attached to the de-energized equipment/apparatus.

4. Anyone entering a Metro Rail SubStation and observing "OUT OF SERVICE TAGS" must not attempt to energize the tagged equipment. The Test Controller must be notified at once and their instructions followed.

IV. PREPARATION OF POWER CLEARANCE FORM

All Power Clearances will be numbered in numerical order starting with the number 1000 (1001 - 1002, 1003, etc.) beginning at the start of each new day's work. The starting time and ending time of each day will be the 24 hour period designated by LACMTA as one complete day. At the start of the new day's work the Power Clearance numbers will revert back to (1000 - 1001 - 1002, etc.) If two substations are to be removed from service (de-energized) for work simultaneously, it will be the responsibility of the employees removing the power in the field to coordinate the Power Clearance numbers that will be used for each substation with the Test Controller (i.e., SUB-19 lists Clearance # 1000 and SUB-20 lists Clearance # 1001).

The following information will be recorded on the Power Clearance Record.

1. Power Clearance Number

2. Circuit/Apparatus: List circuit or apparatus to be worked on.

3. Date

4. Time Requested

5. Reason: List reason for Power Removal/Restoration.

6. Location: Use designated name and/or number where the work will be performed (i.e., substation name and number.)

7. Apparatus: Use designated number of apparatus. (i.e., 170-B02, 170-B03, etc., Rectifier DC/SUB-170, etc.)

8. Open and Tag Number: Record the apparatus is opened and tagged. If apparatus is normally open, indicate the time the apparatus was checked open in the field, and under REMARKS, list "normally open" or "checked open in the field". The same process will apply when closing the apparatus.

9. By: Initials of the employee that opened/checked the apparatus.

10. Voltage: Record voltage reading after breaker is open.

11. Closed: Record the Tag Number apparatus is closed. If apparatus is left open, note this information in the space provided, and the reason left open, under "Remarks". (i.e., BO-1 breaker will be checked in a.m.)

12. By: Initials of the employee that closed/checked the apparatus. Record the repeated time.

13. Traction Power: Insert the name of employee removing or restoring the power.

14. Power Has Been Removed From: Insert the circuit or apparatus de-energized.

15. Status Statement: This allows you to test and ground the listed circuit or apparatus before proceeding with the work.

16. Test Controller: Will sign in the space provided , with the time and date.

17. Transfer: List the name of the employee to whom the Power Clearance was transferred, the time, date, reason, and the name of the Power Supervisor completing the transfer.

18. Release of Clearance: The employee responsible for the work will release the Power Clearance, by number, to the Test Controller reporting the status of the circuit or apparatus, and whether all grounds have been removed, all personnel are clear, and if the circuit or apparatus is OK or NOT OK to be energized. If the circuit or apparatus is NOT OK to be energized, the reason MUST be listed on the Power Clearance in the space provided, **"State reason if NOT OK to energize"**. Any circuit or apparatus that is not to be energized or restored to normal operating status MUST be listed on the Test Controllers Daily Log Report, with the reason the apparatus or circuit must remain blocked and tagged "Out of Service", and carried daily, until released by the Power Department.

19. Release Repeated Correctly: After the traction power employee has given the information in Item 18 to the Test Controller, the Test Controller will read the information back to employee, and if all information is correct, the Test Controller will insert the time and date and sign in the space provided.

NOTE: All switching involved, and information required, must be listed in the spaces provided on the Power Clearance Form. The Test Controller will use this form for the purpose indicated and the form will remain on file in the Red Tag Office.

V. PROCEDURES

1. The request for de-energizing traction power should be a scheduled activity and part of the weekly Track Allocation Meeting, as per Test Operations Procedure No. 1. Unscheduled requests to de-energize traction power in a certain section will be made through the Test Controller.

2. It will be within the Test Controller's authority to grant the request for power removal, if it is not scheduled as part of the weekly Track Allocation Notice. The Test Controller shall contact the proper personnel to operate the substation should the request be granted. (NOTE: In an emergency, the request for removal of power will be granted immediately.)

3. The Red Tag Procedure, as described in the Test Operations Procedure No. 2, will be in effect and Red Tags will be prepared and issued to the designated individual in charge of the work party.

4. Prior to de-energizing the section in question, a qualified and designated individual will enter the right-of-way and operate a voltage measuring device against the live catenary wire to ascertain that the measuring device is working properly. After completing the check, the designated individual will call the Test Controller and request a power removal.

5. The Test Controller will initiate the outage by contacting the tractiion power employee and requesting the particular breakers feeding this section to be opened, locked out, and tagged DO NOT OPERATE. The Test Controller will record the date, time and tag number power removal was completed and the name of the of the employee requesting the power removal. The Test Controller will also make the necessary changes to the power display board.

6. Once the de-energization is completed through the Test Controller, the individual that requested the outage will test the catenary wire with a DC voltage tester to confirm that the catenary wire is in fact de-energized. The individual will apply a ground cable between the catenary wire and running rail at each end of the work location. The installation of the ground cable must be done immediately to minimize the possibility of contact with a possible live catenary wire. The individual can then proceed with the work.

7. Upon completing the work, the designated individual will verify that all personnel and equipment are clear of the track and the ground cables have been removed. The individual will then return the Red Tags, as per Test Operations Procedure No. 2.

8. When the Test Controller is in possession of all Red Tags, they will make a general announcement to Train Operators on every channel that power is to be restored on a particular track section. The Test Controller will then request the traction power employee to restore power. At the time of restoration, the name of the employee or the designated individual will be recorded by the Test Controller. The Test Controller will make the necessary changes to the power request form and the power display board.

POWER CLEARANCE RECORD

Power Clearance #: [1]_____ Date:[3]__/__/__
Circuit or Apparatus: [2]_____
Time Requested: [4]_____:_____ Reason: [5]_____

Location	Apparatus	Open & Tag No	By Init.	Volt Read	Closed	By Int.	Remarks
[6]	[7]	[8]	[9]	[10]	[11]	[12]	

DE-ENERGIZE

I, [13]_____ verify power has been removed from the
(Traction Power Employee)
[14]_____, and is ready for contractor access or
(Circuit/Apparatus)
other work. You may test and ground the circuit/apparatus. [15]

Clearance repeated correctly [16]_____
(Time&Date) (Test Controller)

CLEARANCE TRANSFER [17]

Clearance transferred to _____ at _____
(Employee) (Time & Date)
Reason_____ Comleted by_____
(Test Controller)

ENERGIZE [18]

I_____ Release Clearance Number_____
Test Controller
and report all contractors/personnel Clear Of_____
(Circuit/Apparatus / Tag No)
Contractor Grounds_____ removed. Circuit/Apparatus is_____
(Are / Are Not) (OK /Not OK)
to be Energized_____
(Reason, If not OK to be Energized)
You, [19]_____ have my authorization to remove your grounds and
(Traction Power Employee)
Re-emergize_____ Repeated correctly_____
(Circuit/Appartus) (Time & Date)

_____
Test Controller

TEST OPERATIONS PROCEDURE NO. 8

I. TITLE: **HAND-CRANKING AND HAND-THROWING SWITCHES**

II. PURPOSE

During Test Operations, it may become necessary to operate trains through track switches that are not electrically operational or before switch machines have been installed. It is essential that special attention be given to the following procedures in order to prevent derailments and/or damage to switches.

III. REQUIREMENTS

1. Train Operators must observe switch points and are responsible for checking the switch point alignment to ensure proper rail vehicle movement.

2. When Train Operators are required to operate switches by hand, they must follow the procedures in Section IV of this Procedure.

IV. PROCEDURES

1 Track switch points will be considered aligned when the following is performed:

   a. Switch points are positioned either "normal" or "reverse" as instructed by the Test Controller.

   b. Switch points must be positioned to fit properly against the stock rail to allow the wheels to pass over the switch points.

   c. Notify the Test Controller if switch points are found to stand open more than 3/16".

2. When hand cranking or hand throwing switches, the following will be performed:

   a. The open switch point must be secured with wooden block(s), while the rail clamp is being attached or removed.

b. The closed switch point must be clamped to the stock rail with the clamp wheel nut tightened by a wrench. The clamp must be placed under both the stock end switch point rails with the wheel nut on the field side of the stock rail.

c. If the switch points cannot be closed to 3/16", but it can be accomplished by using a clamp, it need not be removed from service but must be reported to the Test Controller who will inform Rail Facilities Maintenance personnel.

d. If the switch cannot be closed to 3/16" or less by any means, the Test Controller must be notified to take the switch OUT OF SERVICE and provide protection as prescribed by the rules.

TEST OPERATIONS PROCEDURE NO. 9

I. TITLE: **PERSONNEL IDENTIFICATION BADGE**

II. PURPOSE

Because of the numerous safety hazards involved in the Test Operations process and in order for Security personnel to be able to better control access to the Metro Rail System, a Personnel Identification Badge will be issued to all LACMTA, consultant and contractor personnel.

III. REQUIREMENTS

Personnel working or visiting the Metro Rail System must wear a Personnel Identification Badge. All visitors to the Rail System will be recorded in a visitor's log, assigned a visitor's badge and escorted, at all times. A visitor to a contractor will be escorted by a contractor representative after checking in with visitor control at the Resident Engineer's office. Visitors to the Yards and Shops will be required to check in at the Security Office. The escort will ensure that the visitor's badge is returned to the respective control area upon completion of the visit.

IV. PROCEDURES

1. Resident Engineers will obtain from their respective contractors a list of all employees working on the Metro Rail System and those employees likely to require access to the Test Area. The list will be updated each Monday. The list will include the person's name, agency and occupation. The Resident Engineer will submit the list to the Track Allocation Chairman.

2. LACMTA and Consultants will submit a list to the Track Allocation Chairman including the names and occupation of employees that are likely to visit the Metro Rail System facilities in the performance of their duties.

3. The Track Allocation Chairman will supply Personnel Identification Badges for all required employees and visitors. The badges will be color coded as follows:

   Blue Badge - Caltrans
   Orange Badges - LACMTA and Consultants
   Green Badge - Contractors
   Purple Badge - Any individual designated as "Safe Clearance"
   Yellow Badge - Visitors

4. Employees must satisfactorily complete a safety class conducted by the Rail Line Instructions Department prior to the issuance of a Personal Identification badge.

TEST OPERATIONS PROCEDURE NO. 10

I. TITLE: **RAIL VEHICLE OPERATION IN YARD**

II. PURPOSE

To provide guidelines to be followed by Train Operators operating in the Yard.

III. REQUIREMENTS

1. All Yard movements will be governed by the Yard Controller.

2. All Yard movements will be performed in the Stop and Proceed mode of operation.

IV. PROCEDURES

1. Train Operators will receive instructions from the Yard Controller as to the rail vehicle numbers and the moves that will be performed in the Yard.

2. No Yard moves will be performed without the knowledge of the Yard Controller.

3. All Yard moves will be performed exactly as instructed by the Yard Controller.

4. When operating in the Yard, Train Operators must be alert to the following conditions:

   a. Broken or damaged overhead catenary wire.
   b. Obstacles or tripping hazards in the ballast and along the track.
   c. Personnel on foot or in maintenance vehicles, in the shop building and car wash areas.
   d. Tracks/vehicles protected with blue flags/blue lights.
   e. Personnel or vehicles entering or leaving the Yard.
   f. Position of all switch points and aspects of all signals.

5. Provide a proper horn/gong sound prior to initiating train or rail vehicle movements in the Yard.

6. Never foul switch points. Stop behind the yellow foul marker so as not to block the view of the switch points.

7. Be aware of other train and rail vehicle movements in the area and do not move beyond the fouling marker if another train is moving on an adjacent track.

8. When storing cars, assure that rail vehicles are secured with parking brakes and/or chocks. The front or rear of cars must not foul adjacent tracks by storing beyond the yellow foul marker.

9. When leaving cars be sure that:

   a. Windows are closed.
   b. Master key switch is in the "off" or "local" position and the key is removed, when required.
   c. All doors are locked.

10. MANUAL UNCOUPLING

    The employee designated to manually uncouple the car(s) will assure the Rail Vehicle Operator has received and acknowledged the "STOP" signal. When vehicles are stopped, proceed with the manual uncoupling operation. After uncoupling is completed, signal the Vehicle Operator for any required vehicle movement.

TEST OPERATIONS PROCEDURE NO. 11

I. TITLE: **MOVEMENT OF RAIL VEHICLE IN/OUT OF SHOP BUILDINGS**

II. PURPOSE

To provide guidelines for the safe and efficient delivery of rail vehicles in and out of the Shop Buildings.

III. PROCEDURES

1. General

   a. The On-Duty Supervisor of the Rail Equipment Maintenance Department or the authorized designee will coordinate all vehicle movements with the Yard Controller by specifying the vehicle car number, desired time of movement and location for delivery or removal from the shop.

   b. In non-energized territory, a three (3) person crew will be responsible for the movement of all rail vehicles in and out of the shop. The movement crew will normally consist of the Train Operator and two Rail Equipment Maintenance employees.

   c. The Train Operator will apply and release the brakes on the rail vehicle, when signalled by the Rail Equipment Maintenance Employee, to assure the brakes are working properly before rail vehicle movement has begun.

   d. The pantograph must be lowered on the rail vehicle when being moved by the car mover.

2. Car Mover

   a. The Rail Equipment Maintenance personnel will operate the Car Mover when required to move a vehicle in or out of the shop.

3. Vehicle Delivery to Non-energized Shops (Paint, Body and Heavy Repair)

   a. The Train Operator will position the rail vehicle properly at the Shop Limit sign.

b. The Train Operator will remain with the rail vehicle and inform the Yard Controller of its location and status. The Yard Controller will notify the Rail Equipment Maintenance personnel of the delivered vehicle's location.

c. Rail Equipment Maintenance personnel will be assigned as follows:

1) A maintenance employee will ensure any road crossings involved are clear before allowing movement of the rail vehicle and will direct the Train Operator by hand signals or radio.

2) A maintenance employee will operate the Car Mover.

d. The Car Mover Operator will proceed as directed by the Flagger. The Flagger will stop the Car Mover/LRV at the shop entrance.The Operator will sound the gong and proceed as directed by the Flagger to the designated shop location.

e. After chocks are applied to the vehicle wheels by the maintenance employee, the Car Mover/Train Operator will uncouple from the rail vehicle and move clear.

f. The Train Operator will notify the Yard Controller of the vehicle's status and location.

4. Vehicle Movement from Non-energized Shops (Paint, Body and Heavy Repair)

a. The Train Operator will report to the maintenance shop when directed by the Yard Controller as requested by the maintenance employee. The Train Operator will ground inspect the equipment to be moved and apply and release brakes, as signalled by the maintenance employee.

b. If necessary, the Car Mover/Train Operator will couple to the rail vehicle when directed.

c. The maintenance employee will remove all chocks from under the vehicle and will ensure that any road crossings are clear prior to allowing any movement of the rail vehicles.

d. The maintenance employee will direct the Train Operator by hand signals or radio.

e. When the vehicle is released for removal from the Shop, the Car Mover/Train Operator will sound the gong on the vehicle after receiving permission from the Yard Controller to proceed to the Shop Limit sign where the pantograph is to be correctly positioned under the contact wire.

f. When the Car Mover Operator will uncouple the Car Mover from the rail vehicle and, after this is completed, the train operator will raise the pantograph. The Train Operator will notify the Yard Controller of the vehicle status and await further instructions.

5. Vehicle Movement To Energized Shops (S&I, Wheel Truing and Blowdown)

a. The Train Operator will position the rail vehicle at the Shop Limit sign.

b. The Train Operator will remain with the rail vehicle and inform the Yard Controller of its location and status. The Yard Controller will notify the maintenance personnel of the delivered vehicle location.

c. The maintenance employee will direct the Train Operator by use of a hand signal or radio. The Train Operator will sound the gong before movement, proceed as directed, stopping at the shop entrance, and upon receiving a procedure signal, sound gong and proceed as directed.

d. The maintenance employee will ensure that the equipment is properly positioned and all wheel chokes are in the proper position.

e. The Train Operator will notify the Yard Controller of the vehicle's location and status.

6. Vehicle Movement From Energized Shops (S&I, Wheel Truing, and Blowdown)

   a. The Train Operator will report to the maintenance shop when directed by the Yard Controller as requested by the maintenance employee. The Train Operator will ground inspect the equipment to be moved and apply and release brakes, as signalled by the maintenance employee.

   b. The maintenance employee will remove all chocks from under the vehicle.

   c. The Maintenance employee will direct the Train Operator by hand signals or radio.

   d. When the vehicle is released for removal from the shop, the Train Operator will sound the gong on the vehicle after receiving permission from the Yard Controller to proceed with movement. The Train Operator will stop at the shop entrance, sound the gong and proceed on the Flagger's signal.

   e. The Train Operator will notify the Yard Controller of the vehicle's location and status.

TEST OPERATIONS PROCEDURE NO. 12

I. TITLE: **CLEARANCE CARD**

II. PURPOSE

The Clearance Card, when properly filled out, authorizes a Train Operator to operate a train or rail vehicle with sealed switches in the bypass mode or to pass an interlocking signal displaying a "stop" indication.

III. REQUIREMENTS

1. A train must not be operated on the Mainline with any sealed switches bypassed unless a written Clearance Card is issued to the Train Operator.

2. A Train Operator must not pass an interlocking signal not illuminated, or displaying a "stop" indication, unless a Clearance Card is issued by the Test Controller.

3. Train Operators must carry blank Clearance Cards with them at all times while on duty.

IV. PROCEDURES

1. Clearance Cards will be issued by the Test Controller when, either because of a malfunction or because of the type of test being performed, it becomes necessary to:

   a. Pass a Red Signal displaying a Stop indication.
   b. Bypass the ATP.
   c. Bypass Door Interlock.
   d. Bypass "No Motion"
   e. Bypass "Audible Alert."
   f. Bypass "Regenerative Brake".

2. Train Operators will request Clearance Cards from the Test Controller, when necessary.

3. When issued a Clearance Card (either in person or over the radio/telephone), the Train Operator must satisfactorily repeat the necessary clearance information to the Test Controller. Only when instructions are repeated correctly will the Test Controller provide the Train Operator with a Call Sign and the time at which the information was repeated correctly. The "repeat time" represents the authorization to proceed.

   Both the Test Controller and Train Operator will enter the "repeat time" on their respective copies of the Clearance Card. If no "repeat time" is given, the clearance card is void.

4. Trains observed operating with an exterior bypass indication are subject to be inspected by Safety or Supervisory personnel and will be reported to the Test Controller for verification and necessary action. The Train Operator will be required to produce a copy of the Clearance Card before proceeding with the train movement.

5. All properly completed Clearance Cards must be turned in by the Train Operator to the Test Controller at the end of the workday.

LACMTA CLEARANCE CARD

DATE: ____ /____ /____ TRAIN NUMBER: _____

OPERATOR: _____

YOU ARE AUTHORIZED TO:

[ ] PASS INTERLOCKING SIGNAL NO. _____

[ ] USE ATP BYPASS SWITCH

[ ] PASS STOP INDICATION _____

AND PROCEED TO: _____

_____

READ BACK TIME: _____

CONTROLLER: _____

TEST OPERATIONS PROCEDURE NO. 13

I. TITLE: **POWER PERMITS**

II. PURPOSE

To establish guidelines, responsibility and procedures for employees working on **ENERGIZED CIRCUITS**, apparatus or control devices without jeopardizing personal safety or Metro Rail property.

III. REQUIREMENTS

The Power Permit Record Form shall be completed prior to authorizing work on any energized circuit, apparatus or control device.

Transfers of power permits shall be understood by all employees involved and properly recorded on the Power Permit Transfer form.

IV. PROCEDURE

PREPARATION:

1. The employee in charge will request permission from the Test Controller to work on energized equipment stating the type of work that is to be performed.

2. The Test Controller will issue a power permit number, date, time requested and time received.

3. The employee requesting the permit will define work limits and controls to be cut out or affected.

4. The Test Controller will read back to the employee the above information and if correct the Test Controller will log the time and name of the employee.

TRANSFER:

To be used when responsibility for work is passed to another employee.

1. Record the name, time, and date of the employee assuming responsibility and the name of the Test Controller who authorized the transfer. Use the reverse side of the Power Permit for additional transfers requiring the name of the employee in charge of the work and the Test Controller authorizing the transfer.

COMPLETION OF WORK

1. The employee will insert the Test Controller's name and the equipment that has been returned to service including the time and date.

2. The Test Controller will read back the information and when correct will log the time and the name of the employee in charge.

SIDE 1

METRO RAIL SYSTEM POWER PERMIT RECORD

Has the Test Controller been advised of this request and authorized working on the energized circuit or apparatus_____
Yes/No

Work Authorized on circuits/apparatus_____

Remarks_____

Permit No._____ _____ _____ _____
(Date) (Time Requested) (Time Received)

Issued to_____ (Employee in charge of repairs/work) has permission to work

on _____(List Circuit/Apparatus).

Permit repeated and received correct at _____ _____
(Time) (Test Controller's Name)

_____

Permit Transferred to _____ _____ _____
(Name) (Time) (Date)

Reason for Transfer_____

Permit Transferred at _____ _____
(Time) (Test Controller's Name)

_____

Above listed circuit/apparatus is: O.K. for Service____ Not O.K. for Service____

Date:_____ Time:_____

Permit released and repeated correctly at _____ _____
(Time) (Employee in Charge of Work)

NOTE: See other side for additional transfer space required.

SIDE 2

POWER PERMIT TRANSFER RECORD

Permit No. _____ Date: _____

Circuit or Apparatus _____

Permit explained and understood by:		Permit explained and understood by:	
1.	16.	1.	16.
2.	17.	2.	17.
3.	18.	3.	18.
4.	19.	4.	19.
5.	20.	5.	20.
6.	21.	6.	21.
7.	22.	7.	22.
8.	23.	8.	23.
9.	24.	9.	24.
10.	25.	10.	25.
11.	26.	11.	26.
12.	27.	12.	27.
13.	28.	13.	28.
14.	29.	14.	29.
15.	30.	15.	30.

TEST OPERATIONS PROCEDURE NO. 14

I. TITLE: **MAINTENANCE FLAGGING PROCEDURES**

II. PURPOSE

To establish procedures, responsibility and proper flagging protection whenever work permits, wayside restrictions or slow zones are in effect.

III. REQUIREMENTS

Flagging protection shall be required:

1. When employees or contractors are working within ten feet of track centerline.

2. When an emergency exists which restricts train movement.

3. When work permits, wayside restrictions, or slow zones are in effect.

4. Work shall not commence until all flags and appliances are in place.

5. The Supervisor or work crew leader shall notify the Test Controller when flagging protection is established.

6. Flaggers assigned to flagging duties shall be the only individuals authorized to give a proceed signal to a Train Operator.

7. When curves or grades obstruct the line of sight between the flagger and the work party, another individual shall be positioned between the flagger and work party to relay to the flagger when the work area is clear for train movement through the work zone.

IV. PROCEDURES

1. The Supervisor or work crew leader is responsible for the placement of flagging protective devices, and providing proper equipment to the flagger. (See V "Responsibilities" of this Procedure)

2. Flags of prescribed color and type shall be used between sunrise and sunset.

3. Lighted lamps of prescribed color and type will be used when vision is obscured by darkness, fog, etc.

4. Flagging protection shall be implemented by installing the proper flagging appliances at the locations shown on Pages 99, 100, 101 and 102.

5. Lamps and flags shall be placed adjacent to the track structure (left side when possible) but always clearly visible to the Train Operator.

6. The Test Controller shall use the first train through the area to inspect the placement of the flags. If flags are not properly located, the Train Operator will notify the Test Controller and appropriate action will be taken.

7. Upon completion of work, the Supervisor or work crew leader shall inspect the entire work area and inform the Test Controller of track and area conditions.

8. When work is completed and no train movement restrictions are present, the Test Controller will direct the Supervisor or work crew leader to remove the flagging protective devices.

9. When conditions restrict train movement, the Test Controller will direct the flagging protective devices remain in place.

V. RESPONSIBILITIES

FLAGGER

1. An Employee assigned as a Flagger must be properly trained and in possession of a valid certification.

2. An Employee assigned as a Flagger shall not be assigned any other duties.

3. Flaggers shall wear the proper safety equipment, reflective orange vest and be in possession of a red flag, red light, white light, and a portable air horn.

4. Flaggers shall be positioned 200 feet in approach to the protected area.

5. When a train approaches, the Flagger shall display a red flag indicating STOP at the inner yellow flag/light.

6. When the work crew and equipment is clear of the tracks, the Flagger shall remove the red flag and give a proceed signal with the white light to the Train Operator.

7. When the train has passed, the red flag shall be readied for the next train.

TRAIN OPERATOR

1. Train Operators must be familiar with, and obey flagging rules and procedures.

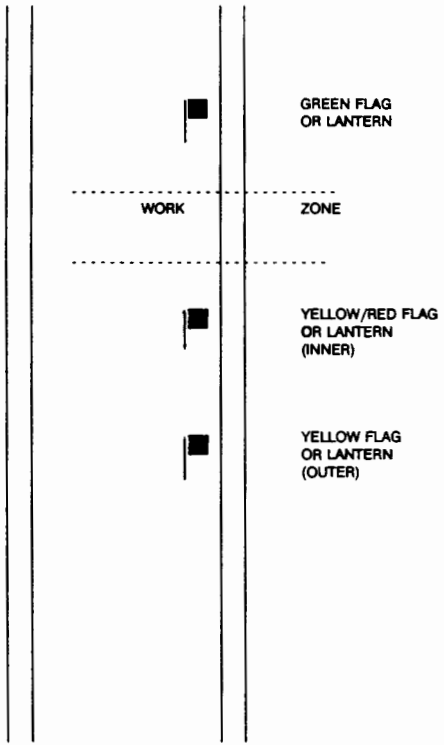
2. When flags or lamps are in conflict with other wayside or cab signals, the most restrictive shall govern.

3. Reduce speed at Outer Yellow Flag to enable a complete and comfortable "STOP" at the Inner Yellow Flag. If no flagger or appropriate flag is present, after stopping, proceed at restricted speed until reaching the green resume flag.

4. When a speed sign is present a "Stop" at the inner yellow flag is not required. Proceed at the indicated speed until reaching the green resume flag.

5. When a Flagger is present, follow the appropriate hand signals given by the Flagger.

SLOW ZONE DIAGRAM

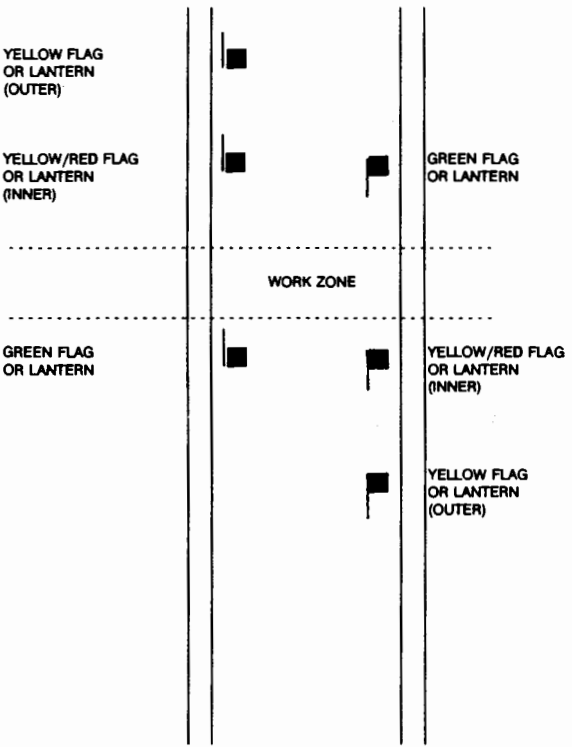


OUTER YELLOW FLAG - - - - 800 FEET IN ADVANCE OF INNER YELLOW/RED FLAG

INNER YELLOW/RED FLAG - - 200 FEET IN ADVANCE OF WORK ZONE

GREEN FLAG - - - - - - - 200 FEET PAST WORK ZONE

SLOW ZONE DIAGRAM



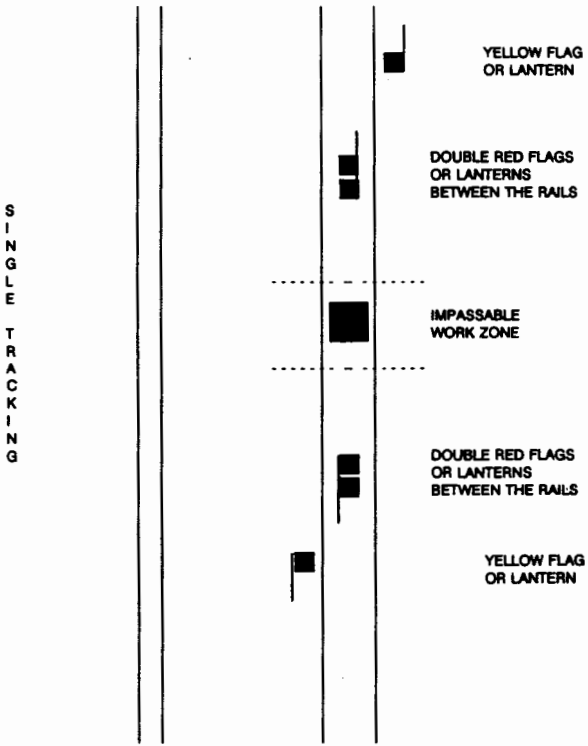
OUTER YELLOW FLAG - - - - 800 FEET IN ADVANCE OF INNER YELLOW/RED FLAG

INNER YELLOW/RED FLAG - - 200 FEET IN ADVANCE OF WORK ZONE

GREEN FLAG - - - - - - - 200 FEET PAST WORK ZONE

SLOW ZONE DIAGRAM

IMPASSABLE WORK ZONE

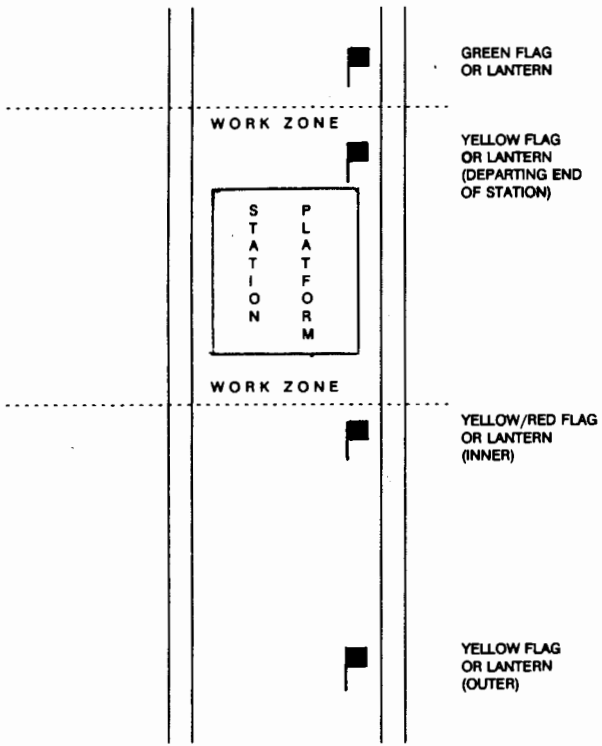


YELLOW FLAG ------ 800 FEET IN ADVANCE OF DOUBLE RED FLAGS

DOUBLE RED FLAGS - - - - 200 FEET IN ADVANCE OF IMPASSABLE WORK ZONE

SLOW ZONE DIAGRAM

PASSENGER STATION



OUTER YELLOW FLAG - - - - 800 FEET IN ADVANCE OF INNER YELLOW/RED FLAG

INNER YELLOW/RED FLAG - - 200 FEET IN ADVANCE OF WORK ZONE

GREEN FLAG - - - - - - - 200 FEET PAST WORK ZONE

YELLOW FLAG MUST BE PLACED AT DEPARTING END OF STATION

TEST OPERATIONS PROCEDURE NO. 15

I. TITLE: **WORK PERMIT PROCEDURE**

II. PURPOSE

To ensure that all work on or near the right-of-way is properly coordinated and protected. It is essential that a disciplined procedure be implemented to control access to the property and to protect all personnel from the hazards of moving trains and energized traction power. Work Permits will be issued when power removal is not required. When power removal is required refer to Test Operations Procedures No. 2.

III. REQUIREMENTS

Employees or contractors requiring access to any Test Operations area, other than RED TAG AREAS, for any activity shall:

1. Receive a work permit from the Test Controller scheduled at least 48 hours in advance of the need, except in an emergency.

2. Designate an employee to be responsible for receiving the work permit. The employee in charge is responsible for notifying the Test Controller when all members of the work party have left the Right-Of-Way.

3. The individual in charge must have a portable radio and establish communications with the Test Controller.

4. Work permit limits and conditions must not be exceeded without authorization from the Test Controller.

5. Types of Work Permits:

   a. Dailly - Designated by a number.
   b. Weekly - Designated by a "W", followed by a number.
   c. Extended - Designated by a "E", followed by a number.

IV. RESPONSIBILITIES

TEST CONTROLLER:

1. Issue all work permits.

2. Maintain a record of all work permits issued.

3. Ensure that a sufficient number of copies of the work permit are available for the entire work party.

4. Notify Rail Vehicle Operators of work permits in effect, including location, slow zones, and the type of work being performed.

EMPLOYEE OR CONTRACTOR:

1. Employees will contact the Test Controller to schedule the work permit at least 48 hours in advance, except in an emergency.

2. The contractor will coordinate all requests for work permits at the Track Allocation Meeting.

3. Obtain the work permits from the Test Controller prior to the work party entering the right-of-way.

4. Distribute copies of the work permit to all members of the work party.

5. Ensure that all members of the work party adhere to all rules, procedures and conditions applicable.

V. PROCEDURES

1. The Work Permit must be signed by the Test Controller to be valid.

2. Prior to the start of each day's work the designated individual in charge must notify the Test Controller to activate the Work Permit.

3. Employees of contractors that have been scheduled to work on the right-of-way will have a designated individual in charge of the work who will secure sufficient copies of the work permit for all members of the work party prior to entering the work area.

4. When the work has been completed or suspended for the day, the employee in charge of the work party shall inform the Test Controller that all members of the work party have left the right-of-way.

5. All members of the work party are subject to challenge by authorized personnel. When challenged, they must produce the Work Permit, Train Order, Personnel Identification Badge and company/personal identification or a purple Safe Clearance Identification Badge and personal identification.

6. The individual in charge of the work party must be familiar with the work area, in order to safely locate and mark the limits. If they are not familiar with the work area, then an escort must be assigned by the Test Controller to guide the work party to the work area and ensure the limits are marked correctly.

7. The Flagging Procedure must be adhered to when working on the Metro Rail Right-Of-Way.

NOTE: Certain individuals, because of the nature of their work and their knowledge of the activities taking place, will be issued a purple badge (Safe Clearance Identification) which will allow them to be in the Work Permit Area without a Work Permit. Those individuals will be identified by the Test Controller and/or the Systems Area Coordinator and must keep the Purple Safe Clearance Identification Badge in their possession and present it to authorized personnel upon request.

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

METRO RAIL WORK PERMIT
_____ LINE

Permit No._____ Effective From:_____ To:_____

No. in Work Party_____ Day(s): S M T W T F S

Beginning:_____ Hours Ending:_____ Hours

ISSUED TO: _____

AUTHORITY TO OCCUPY: _____

AT/BETWEEN: _____

AND: _____

POWER STATUS: AC * ON OFF OFF AND GROUNDED

DC * ON OFF OFF AND GROUNDED

BREAKERS: OPENED_____

RACKED OUT ___NO ___YES _____

POWER INSPECTOR/SUPERVISOR: _____

TAGS ISSUED:_____ TAGS RETURNED:_____ TIME CLEAR:_____

EQUIPMENT BEING USED: _____

_____

_____

SPECIAL CONDITIONS/INSTRUCTIONS: _____

_____

_____

_____

ISSUED: DATE:_____ TIME:_____ BY: _____

RECEIVED: DATE:_____ TIME:_____ BY: _____

TEST OPERATIONS PROCEDURE NO. 16

I. TITLE: **YARD THROAT ACCESS PROCEDURE FOR SOUTHERN CALIFORNIA EDISON (SCE)**

II. PURPOSE

This procedure is to be used whenever SCE needs to access their property in the MGL Yard Throat. This procedure is to be used by all authorized personnel starting one week before the catenary is first energized. SCE will be notified when this procedure is to be implemented.

III. PROCEDURES

The following assumptions have been made relative to the manual access scenario:

- Fencing and retaining walls will be provided outside of Yard lead tracks 17 and 10. Fencing will be provided inside of Yard lead tracks 17 and 1 and also adjacent to the west side of the mainline.

- Two access gates, one inside and one outside of each access crossing, will be provided in the fence/retaining wall inside and outside of Yard lead tracks 17, 1 and 10. The gates will normally be locked with a transit system lock and will be alarmed to indicate unauthorized entry (train operations will not be stopped if gates are opened).

- Telephones will be provided inside and outside of the crossings. The telephone will ring at the Yard guard house and will automatically ring-down to Central Control in the event that the Security Guard is patrolling in the Yard.

- No CCTV cameras, public address, or remote gate controls will be provided.

The operational and SCE access procedures are as follows:

- Southern California Edison

  - Requests access into the wye area from the Security Guard at the Yard site or via MTA telephone outside of the wye area crossing (Security Guard available 24 hours per day, seven days per week).

Security Guard

- Notifies CCF of proposed SCE access into wye area and the duration requested by SCE.

Central Control

- Inhibits train movements over all lead tracks or designated lead tracks to/from the Yard.
- If SCE activity will occur during a period of peak Yard activity or be of a nature where flag protection is necessary, notifies designated flag person in the Shop.
- Authorizes access into the wye area.

Security Guard

- Unlocks and opens gate for SCE access after authorization from CCF.
- Coordinates SCE work with Central Control as required for the duration of the work.

Flag Person (when required)

- Coordinates SCE work with Central Control as required for the duration of the work.
- Provides continuous flag protection for SCE.
- Confirms that SCE work is complete and that there are no impediments to resuming train movements.

SCE Crew

- Performs the work and prior to leaving the area, notifies the Security Guard and flag person (if used) when work is completed.

Security Guard

- Closes, locks and secures access gates after SCE crew has departed.
- Notifies Central Control that wye area is clear and secured.

- Central Control

  - Releases flag person from their duties.

  - Enables train movements to/from the Yard.

TEST EMERGENCY PROCEDURE NO. 1

I. TITLE: **TRAIN DERAILMENT/COLLISION: MAINLINE/YARD**

II. PURPOSE

The purpose of this procedure is to provide guidelines for emergency response and personnel action in the event of a derailment on the Mainline/Yard track.

III. PROCEDURES

1. Notification

   a. A Train Operator becoming aware that the train is derailed or involved in a collision shall stop the train immediately, if not already stopped, and notify the Test Controller by radio or telephone, whichever is available, and provide the following information:

      1) Caller's Identification.
      2) Reason for the call.
      3) Location (track number, milepost, street crossing or nearest station).
      4) Need for medical assistance.
      5) Conditions at the scene.
      6) Presence of smoke or fire.

   b. The Test Controller shall instruct the Train Operator to:

      1) Secure the train and apply brakes on all cars.
      2) Notify passengers/Test Personnel of the problem and any action to be taken.
      3) Immediately report any injury or the presence of smoke or fire.
      4) Investigate and report extent of visible damage, and/or obstructions.

   c. The Test Controller shall immediately notify the appropriate law enforcement agency and fire department. The Test Controller shall provide: their name, the location of the collision/derailment, the presence of fire/smoke, injuries, street blockage, and other pertinent data.

d. The Test Controller shall cause the traction power to be removed from both tracks in the area of the derailment until it has been determined by supervisors at the scene that it is safe to restore power.

e. The Test Controller shall instruct the Train Operators of trains approaching the accident site from either direction, to stop and report their position. When the collision/derailment occurs in the vicinity of the Southern Pacific Transportation Company (SPTC) tracks, the SPTC train dispatcher shall be contacted, notified of the accident location, and requested to stop all SPTC trains short of the accident and await clearance from the Test Controller to pass the scene.

f. The Test Controller shall cause the interlocking signals (if operable) at adjacent interlockings on both sides of the collision site, to display "stop", to prevent trains from moving into the area.

g. The Test Controller shall notify the following by instituting the Emergency Call Out list:

1) CAIT (Chairman of the Accident Investigation Team)
2) LACMTA/RCC Manager of Rail Activation
3) OKA Rail Activation Manager
4) LACMTA Central Control Manager
5) LACMTA Rail Operations Manager
6) LACMTA Rail Equipment Maintenance Manager

2. Chairman of the Accident Investigation Team (CAIT)

a. Upon arrival at the site to investigate the accident, CAIT shall establish communications with the Test Controller, be responsible for coordinating transit system activities, and cooperate with the Fire or Police Department, when present.

b. CAIT shall check the track adjacent to the affected track for train clearance and report the condition to the Test Controller.

c. When CAIT determines and reports that the adjacent track is not obstructed, CAIT may advise the Test Controller to restore traction power to the unobstructed track with trains to proceed at restricted speed past the accident area. The Test Controller shall coordinate Train Operations as required by the conditions.

d. CAIT shall inspect the operating cab(s) of the train(s) involved in the accident and note any irregularities or defects on the cab displays or train operating controls. CAIT shall interrogate the Train Operators involved as to the cause of the accident and at the same time, observe their physical appearance and general behavior to determine their fitness to continue to operate trains. Required medical testing of all employees involved in the accident will be mandatory immediately after the incident and the medical report shall be given to CAIT upon release of the information by the attending physician or hospital.

e. After investigating the collision or derailment, CAIT shall provide the Metro Rail Line Accident Investigating Team with an informative report regarding the following:

1) Any irregularities found in the operating cab(s).
2) Braking capability of the cars being moved.
3) Description of the train movement as furnished by the Test Controller.
4) Cause of the collision or derailment as furnished by the Train Operator(s) and their fitness to operate trains.
5) Injuries.
6) Presence and length of fresh skid marks on the rails.
7) Rail condition (wet, slick, oil covered).
8) Evidence of a track switch run-through.
9) Number of trucks or cars derailed.
10) Damage to equipment, car and wayside.
11) Impact of collision or derailment on train movement.
12) Effect on car availability.
13) Medical reports of Train Operator(s) involved in the accident.
14) Any other pertinent information relative to the collision or derailment.

f. CAIT is responsible for notifying appropriate LACMTA and regulatory agencies of reportable accidents and will be the focal point for any dealings with regulatory agencies (i.e., CPUC, NTSB).

3. Medical Assistance

a. Medical assistance for employees or passengers shall be requested through the Test Controller. The employee requesting medical assistance shall provide an estimate of the number of people requiring assistance and, when possible, determine the quickest access point to the scene.

b. The Test Controller shall request aid through the appropriate Law Enforcement Agency, providing the location, cross street and location of nearest access to the scene, when known.

c. The names and addresses (when possible) of people requiring medical assistance, and the names of medical agencies and personnel notified shall be included in the accident report.

4. Removal of Damaged Cars

a. Traction power shall be removed from the involved track before the Rail Maintenance personnel begin work.

b. The Metro Rail Transportation Operations Supervisor (RTOS) shall arrange for proper flagging protection for the work group, in accordance with the Test Rules and Procedures for Conducting Test Operations.

c. When the RTOS in charge of the work group advises that the train movement on the adjacent track is hazardous to the operation, the Test Controller shall suspend train operations on the adjacent track.

d. Collisions with vehicles other than LACMTA vehicles and the rescue of injured persons in those vehicles is the purview of the local police and fire departments. On occasion, however, they may require assistance from transit system personnel or equipment. This assistance shall be provided as requested or needed. Certain operations, such as jacking of rail cars, require specialized equipment and skills, and should not be performed by fire department personnel. Effective liaison between the RTOS, fire department, CAIT, and the Maintenance Supervisor is vital to avoid any situation which may further endanger personnel or result in excessive damage to LACMTA equipment.

e. When the damaged/derailed cars are safely secured and any damage to track or wayside equipment repaired and approved for safe train movement, by the LACMTA/RCC Manager of Rail Activation in conjunction with other Metro Rail personnel at the scene, the Test Controller shall be requested to coordinate the restoration of power. The Test Controller shall alert all personnel in the area that traction power will be restored.

f. After power has been restored and the damaged cars are en route to the yard, the Test Controller shall request a test train be operated through the area at restricted speed to determine that right-of-way conditions are acceptable.

TEST EMERGENCY PROCEDURE NO. 2

I. TITLE: **PERSON HIT BY TRAIN**

II. PURPOSE

The purpose of this procedure is to provide guidelines for emergency response and personnel action in the event a person is struck by a train.

III. PROCEDURES

1. Initial Actions

   a. Whenever a Train Operator observes an unprotected person on the tracks, every effort shall be made to avoid hitting the person, including applying brakes, pushing the "emergency stop button", and sounding the train horn.

      The remainder of this procedure is to be followed if efforts to avoid hitting the person are unsuccessful.

2. Train Operator

   a. Notify the Test Controller of the accident by using the train radio. Should attempts at radio contact be unsuccessful, utilize the nearest available communication.

   b. Furnish the Test Controller with the train identification, track number, milepost, and train location in relation to a station or cross street.

   c. Request the Test Controller to remove traction power and confirm removal.

   d. Secure the train by setting the brakes.

   e. Leave the train and ascertain the location and condition of the person struck by the train.

   f. Notify the Test Controller of the person's condition and, if possible, assist the person until medical assistance arrives.

   g. When any part of the train is in a station, discharge passengers through the doors that are in the station.

h. Attempt to obtain the names and addresses of any witnesses to the accident.

i. Assist the emergency personnel who respond to the accident whenever possible.

j. Prepare a report of the accident and submit it to the Chairman of the Accident Investigation Team (CAIT).

3. Test Controller

a. Initiate removal of traction power and verify the removal to the Train Operator.

b. Notify the appropriate law enforcement agency and request assistance. Provide them with as much specific information as possible (i.e., nature of the emergency, location, nearest points of entry, conditions known at the time).

c. Notify the following:

1) CAIT (Chairman of the Accident Investigation Team)
2) LACMTA/RCC Manager of Rail Activation
3) OKA Rail Activation Manager
4) LACMTA Central Control Manager
5) LACMTA Rail Operations Manager
6) LACMTA Rail Equipment Maintenance Manager

d. Alert Train Operators approaching the area.

e. Initiate action to close the affected area to unauthorized personnel with assistance from transit system security.

4. CAIT

a. Upon arrival, contact the Test Controller and establish a command post to manage on-the-scene coordination. All personnel involved in the accident shall make their presence known to the Accident Investigation Team.

b. Take charge of coordinating all transit system activities and liaison with police and fire department representives.

c. Notify appropriate LACMTA personnel and regulatory agencies of reportable accidents and serve as the focal point for any dealings with regulatory agencies (i.e., CPUC, NTSB).

5. Transit System Security

a. The first officer(s) on the scene of the accident will take the responsibility to determine if:

1) Test Control has been notified.
2) Removal of the traction power has been accomplished.
3) Notification has been made to police, fire, rescue and other appropriate personnel and that they are responding.
4) The Test Controller has been furnished with train identification, track number, milepost, and accident location.

b. Render or assist in rendering first aid to the victim pending arrival of competent medical authorities.

c. Assist with clearing area of unauthorized personnel.

d. Attempt to obtain names and addresses of witnesses to the accident.

6. Victim shows signs of life:

a. On-the-scene personnel shall provide whatever assistance is within their capabilities.

b. Actual rescue of victims is the responsibility of the local Fire Department. On occasion, however, they may require assistance from transit system personnel or equipment. This assistance shall be provided as requested. It is racognized that certain operations, such as jacking train cars to remove a pinned victim requires specialized equipment and should only be done by trained LACMTA personnel. Effective liaison between the police and fire department officer in charge and the Accident Investigation Team is vital to avoid situations which may further endanger personnel or result in excessive damage to equipment.

7. Victim Obviously Deceased

   a. Accidents in which the victim is obviously deceased are the primary responsibility of the Police and Coroner and may be the result of a crime. With this in mind, transit system personnel should not disturb the scene until the arrival of the police and should try to identify and detain witnesses.

   b. On-the-scene personnel should be guided by direction of the police and fire department representatives.

8. Traction Power Restoration and Resumption of Testing

   a. After the person has been removed, the Test Controller shall instruct the LACMTA Rail Facilities Maintenance personnel to clear the area.

   b. When all personnel and equipment are in the clear, and permission is given by the Fire/Police Officer in charge, CAIT shall notify the Test Controller. The Test Controller will then order traction power restored.

   c. The Test Controller will restore service and notify all designated representatives.

9. Removal of Accident Car/Train

   a. CAIT shall inspect the operating cab(s) of the train(s) involved in the accident and note any irregularities or defects on the cab displays or train operating controls. CAIT shall interrogate the Train Operators involved as to the cause of the accident and, at the same time, observe their physical appearance and general behavior to determine their fitness to operate trains. Required medical testing of all employees involved in the accident will be mandatory immediately after the incident and the medical reports shall be supplied to CAIT upon release of the information by the attending physician or hospital.

   b. After power has been restored and any damage to the vehicles repaired, and all the accident data has been obtained, the LACMTA/RCC Manager of Rail Activation in conjunction with LACMTA personnel at the scene shall request the Test Controller to instruct the Train Operator to move the vehicle to the Yard/Shop for detailed inspection.

c. After investigating the accident, CAIT shall develop an informative report regarding the following:

1) Any irregularities found in the operating cab(s).
2) Braking capability of the cars being moved.
3) Description of the train movement as furnished by the Test Controller
4) Cause of the accident as furnished by the Train Operator(s) and their fitness to operate trains.
5) Injuries.
6) Presence and length of fresh skid marks on the rails.
7) Rail condition (wet, slick, oil covered).
8) Evidence of a track switch run-through.
9) Number of trucks or cars derailed.
10) Damage to equipment, car and wayside.
11) Impact of collision or derailment on train movement.
12) Effect on car availability.
13) Medical reports of the Train Operator(s) involved in the accident.
14) Any other pertinent information relative to the accident.

NOTE: The Safety Department shall notify the CPUC of the accident, initially by phone, and later in a written accident report.

TEST EMERGENCY PROCEDURE NO. 3

I. **TITLE: BOMB THREATS**

II. PURPOSE

The purpose of this procedure is to provide guidelines for emergency response and personnel action in the event of a bomb threat.

III. PROCEDURES

1. Notification

   a. Employees receiving a bomb threat shall attempt to obtain the following information using the MTA check list:

      1) Name of person.
      2) Location of the bomb.
      3) Scheduled time of explosion.
      4) Identification of container (size, color, and material).
      5) Type of bomb.

   b. The information shall be promptly relayed to the Test Controller.

   c. The Test Controller shall notify the appropriate law enforcement agency, LACMTA/RCC transit system security and all concerned departments.

2. Known Location and Explosion Time of Bomb

   a. When a bomb is reported on an identified train, the Test Controller will instruct the Train Operator to do the following:

      1) Proceed to the nearest station and evacuate the train, the station and surrounding area. As directed by the Test Controller, move the train out of the station.
      2) Secure the train with the proper doors open.
      3) Leave the train unattended for inspection by law enforcement personnel.

   b. The Test Controller will instruct any Train Operators approaching the station on the adjacent track to stop outside the station and await further instructions.

c. When a bomb is reported in a station or system building, Transit System Security will be dispatched to the site to evacuate all personnel from the facility.

d. When a bomb is reported on the right-of-way the Test Controller will order the Train Operators on both tracks approaching the reported bomb location to stop the trains and await further instructions.

3. Location and Explosion Time of Bomb Unknown

a. When a bomb threat is received and the location and time are not known, the Test Controller will order the Train Operators on both tracks to stop the trains at the next passenger station, inspect the trains for any suspicious objects or packages, and report the findings to the Test Controller and then follow instructions.

1) Transit System Security shall inspect all stations and facilities for any unattended objects or packages.
2) Train crews shall inspect all cars of trains for unattended objects or packages.
3) Train Operators shall inspect the right-of-way for unusual objects or packages.
4) Employees discovering suspicious objects or packages shall order the area cleared and notify the Test Controller. When the suspicious object or package is found on a train at a passenger station, notify the Test Controller, evacuate all passengers from the train and station, and remain clear of the area until security arrives.

4. Inspection of Suspicious Areas or Objects

a. Employees at the scene shall inform law enforcement personnel of their findings and remain clear.

b. Inspection of the suspected bomb shall be performed only by law enforcement personnel.

5. Resumption of Testing

a. When law enforcement personnel have determined the threat no longer exists and the on-site LACMTA/RCC person has determined it is safe for operations to continue, the Test Controller will:

1) Restore test operations and notify all concerned departments.

TEST EMERGENCY PROCEDURE NO. 4

I. TITLE: **EMERGENCY REMOVAL OF TRACTION POWER**

II. PURPOSE

For the removal of traction power in an emergency.

III. REQUIREMENTS

1. Traction power will be de-energized and locked out in emergency conditions for the duration of the emergency or until Test Operations Procedure No. 7 is implemented.

2. Emergency Trip Station (ETS) operation must be activated in accordance with the rules.

3. The Test Controller will maintain written records associated with any operation of the ETS push buttons or local remote control of feeder breakers at traction power substations.

IV. PROCEDURES

1. General

For the purpose of emergency removal of traction power, there are two separate areas of control, the mainline and the yard. The mainline is controlled from each traction power substation, emergency trip stations (ETS) along the right-of-way, or from the Central Control Facility via SCADA, if available. The yard and shop buildings are controlled from the yard substation, ETS's throughout the yard, and at the Yard Controller's office.

2. Operation of Emergency Trip Buttons

Each button is a push type with a latching device to hold the button in the depressed position. Once pushed, power will be de-energized in the designated section. When the button is in the depressed position, it will prevent the breakers within the substation from being re-closed and re-energizing power. After the button is released, the trip circuits must be reset locally, and the feeder breakers re-closed to re-energize traction power.

3. Operation by Local/Remote Control

Feeder breakers are operated locally from each traction power substation or from Central Control, when available, for the Mainline and the Yard. During Test Operations, the Yard Controller will have an emergency trip pushbutton to de-energize the yard and shop tracks.

4. Mainline Limit

Traction power for the mainline is provided by the mainline substations and extends from Norwalk station to the end of the line at Marine.

5. Yard Limit

Traction power for the yard which includes all tracks outside and leading up to the shop building is provided by the yard substation.

6. Shop Limit

The yard substation also provides power for all tracks within the shop building including all work stations with 750V DC receptacles.

7. Emergency Procedure

a. In the event of an emergency, the following will be enacted:

1) An emergency will be declared.
2) The person declaring the emergency shall notify the Test Controller by name, occupation and location, and specify the location where power should be or was de-energized.
3) The Test Controller will record the caller's name then attempt to determine the extent of the emergency from the caller and notify the appropriate personnel and agencies, when necessary.
4) The Test Controller will notify the Power Supervisor that an Emergency Trip Push Button has been activated and that personnel will be needed to respond to the substation(s) to restore power.
5) The Test Controller will gather all related information regarding the emergency including individual reports, complete the appropriate forms, and give these to the investigating supervisor.

b. Post Emergency

1) Only the person who caused power to be de-energized or their designee may authorize restoration of power. After the Test Controller has been notified they will pull the push button out to it's normal position.

2) The Test Controller will then authorize the Power Supervisor to reset the trip circuits and close the traction power feeder breakers associated with the de-energized zone and restore power.

TEST EMERGENCY PROCEDURE NO. 5

I. TITLE: **ACCIDENT/INCIDENT INVESTIGATION**

II. PURPOSE

To provide guidelines for investigation of an accident/incident during test operations.

III. REFERENCE

These guidelines are based on material from the LACMTA "Rail Accident Procedures" manual.

IV. REQUIREMENTS

1. Some minor incidents and/or accidents may be handled by the Train Operator and the Test Controller. In addition to the Train Operator and Test Controller other incidents and/or accidents will require the Chairman of the Accident Investigation Team (CAIT), LACMTA Rail Operations, Manager and LACMTA/RCC Safety Representative to provide detailed information.

   An incident is an occurrence which if not corrected could affect the safety and reliability of the rail transit system. Some are:

   a. Broken or faulty signals (false indications, dark signals, etc.)

   b. Broken or faulty Control/SCADA Indications (false indications or alarms, loss of control or display, etc.)

   c. Broken or faulty wayside equipment (CCTV, power, signals, tracks, fencing, stations, etc.)

   d. Broken or faulty vehicle equipment (ATP, doors, brakes, propulsion (trainlines, PA, etc.)

   e. Violations of test instructions, train orders, and/or bulletins (signal violations, disregard of instructions, etc.)

2. More serious accidents/incidents will require the efforts of an Accident Investigation Team consisting of Operations and Maintenance personnel, Safety Representatives, and appropriate Law Enforcement Representatives.

Serious accidents/incidents will be known as **Code 2 Accidents**. They may involve one or more of the following events, as defined in the Emergency Test Procedures:

a. Death

b. Collision of a test train vehicle with a maintenance vehicle or alighting test personnel that requires medical treatment.

c. Any mainline or yard derailment.

d. Any accident/incident which requires the evacuation of test personnel. (Unloading of test personnel is considered an evacuation when circumstances threaten their safety).

e. Fire or explosion on a test train/vehicle or at a Metro Rail Line facility or construction site.

f. Collisions between two test trains.

g. Collision between a test train and track or wayside equipment.

h. Accident/incident involving a runaway test train/vehicle resulting in damage or injury.

i. Accident/incident involving mainline interlockings.

j. Chemical spills or the uncontrolled release of a compressed gas or hazardous substance.

k. An employee or other individual with an injury (ie, the individual requiring transportation to a medical facility)

l. Industrial injuries occurring at a Metro Rail Line facility or construction site will be classified as a Code 2 Accident.

3. Local and/or Area Police and Fire Departments

When a surface accident along the Metro Rail Line requires police or fire department activity that may block station entrances/exits or obstruct tracks, the police and/or fire department should immediately notify the Test Controller as to location, magnitude, type of accident, and conditions at the site.

V. INVESTIGATION PROCESS

1. Minor Accidents/Incidents

a. When minor incidents occur, the Train Operator will immediately notify the Test Controller, and prepare the appropriate Operators Report. The Test Controller will assign test personnel to assist in rectifying the situation, and prepare a short narrative explaining the findings, nature of the problem, and remedial action taken. A copy of all reports will be sent to the LACMTA Rail Operations Manager who will forward it to the LACMTA/RCC Rail Activation Manager and LACMTA/RCC Safety Representative.

b. When minor accidents are determined not to be Code 2 Accidents, the Train Operator will immediately notify the Test Controller and prepare the appropriate Operators Report. The Test Controller will notify the Chairman of the Accident Investigation Team (CAIT), and the LACMTA/RCC Safety Representative and the LACMTA/RCC Rail Activation Manager.

2. Code 2 Accidents

The accident investigation process for Code 2 Accidents will consist of three main stages:

Preparation
Investigation
Results (Corrective actions)

a. Preparation

1) Advance preparation is essential to ensure that LACMTA effectively investigates accidents. This will ensure that adequate resources are available and that these resources are utilized. The LACMTA/RCC Safety Section will review and recommend changes to the Accident Investigation Procedures as the need arises.

2) Each department within the LACMTA will maintain an adequate supply of investigation equipment and ensure adequate training for personnel who investigate Code 2 accidents. A list of items useful in accident investigation is provided at the end of this procedure.

b. Investigation

1) When a Code 2 Accident occurs, the Test Controller will initiate the Emergency Call Out List.

The first team member to arrive at the accident scene should ensure that adequate professional assistance (ie, police/fire department personnel) are present or have been summoned when needed to care for the injured and control any life threatening conditions.

2) Investigation should focus on the preservation of evidence. Methods of preserving evidence include the following:

Photos
Interviews
Measurements and drawings
Debris collection

3) When arriving at the scene, CAIT will take charge of the investigation. Interviews will be conducted with the Train Operator, test personnel and other witnesses. Measurements and photos will be taken, and a summary report prepared. A copy of this report will be sent to the LACMTA Rail Operations Manager who will forward it to the LACMTA/RCC Rail Activation Manager and LACMTA/RCC Safety Representative within 48 hours of the occurrence.

c. Multi-Departmental Investigations

Accidents of extreme severity (ie, Fatalities, major fires, etc.) will be evaluated by the LACMTA/RCC Safety Section to determine whether the severity of the accident warrants an investigation utilizing the combined resources of two or more LACMTA departments. Such joint investigations will be classified as Multi-Departmental Investigations and could require the use of outside consultants. Initiation of Multi-Departmental Investigations will be determined by the LACMTA/RCC Safety Section.

1) Follow-up activities consist of all investigations performed after the accident scene has been cleared and includes but is not limited to the following:

a) Collection and review of equipment specifications, inspection records, maintenance records, etc.
b) Collection and review of all reports generated as a result of the accident.
c) Interviews of the Train Operator and witnesses.
d) Inspection of physical evidence.
e) Accident reenactment.
f) Laboratory testing including information gained as a result of medical examinations.
g) Meetings
h) Participation in the Multi-Departmental Investigation Committee reviews of Special Reports including contributing factors, recommendations and any remedial action plans.

d. Special Reports

In Multi-Departmental Investigations, the LACMTA/RCC Safety Section may request various departments to produce Special Reports which will include the department's analysis of the accident. These reports will focus on specific aspects of the accident (ie., equipment defects, human error, violation of rules, etc.) and will attempt to identify causes and other contributing factors to the accident. The Special Report will include recommendations and any actions taken or planned by the department as a means of preventing or mitigating similar accidents and provide implementation schedules for planned actions.

IV. RESULTS

1. Closing Memo

Upon receipt of the Special Reports, the LACMTA/RCC Safety Section and CAIT will issue a closing memo that will summarize the findings, the remedial action plans, and implementation schedules agreed upon by the various departments. Issuance of this closing memo to the LACMTA will signify the close of the investigation of the incident for the purpose of preventing or mitigating similar incidents.

2. Implementation Of Corrective Actions

LACMTA Departments issuing Special Reports will implement corrective actions pertaining to their department necessary to prevent or mitigate similar accidents. In addition, other departments will implement corrective actions pertaining to their department identified by the Multi Departmental Investigation Committee.

TEST EMERGENCY PROCEDURE NO. 6

I. TITLE: **HOSTAGE SITUATION - TRAIN AND/OR PASSENGER STATION**

II. PURPOSE

To provide guidelines for emergency action to be implemented in the event of a reported hostage situation, causing passenger endangerment and/or injuries.

III. REQUIREMENTS

1. The employee noting the incident shall immediately notify the Test Controller and provide the following information:

   a. The caller's name, telephone number, and identification number.

   b. Location (track number, direction, station name or mile post marker, cross street, etc.), when possible.

   c. Description of the emergency, condition of passengers and the need for emergency assistance.

IV. TEST CONTROLLER

1. Record name of person reporting the emergency, time of incident and the location.

2. Instructions to Train Operator

   a. Proceed to station for evacuation, when allowed.
   b. Status update, when allowed.
   c. P. A. announcement to passengers, if allowed.

3. Evaluate facts

4. Select plan

5. Dispatch Line Supervisor to nearest station location to act as On-Scene Coordinator.

6. Isolate immediate area while providing as much service as possible.

7. Initiate Emergency Call Out List

8. Coordinate:

   a. Train moves
   b. Rescue train
   c. Bus bridge
   d. Hi-rail maintenance vehicle set-on and movement
   e. Restoration of service

V. LINE SUPERVISOR/ON-SCENE COORDINATOR

1. Assume control until police department arrival.

2. Support the Incident Commander as requested and furnish pertinent information as necessary.

3. Coordinate:

   a. Emergency boundaries with Central Control
   b. Rail personnel at the scene
   c. Release for restoration of service

4. Update Test Control regarding current status.

VI. TRAIN OPERATOR

When it becomes apparent that a hostage situation is taking place aboard the train, when possible:

1. Contact Test Control immediately.

2. Give train location, track number, station mile post marker.

3. Description of emergency condition and assistance required.

4. Do not stop train unless instructed to do so. Attempt to reach the next station.

5. Update and provide Test Control with as much information as possible.

TEST EMERGENCY PROCEDURE NO. 7

I. TITLE: **EARTHQUAKE**

II. PURPOSE

To provide guidelines for emergency action to be taken in the event of an earthquake related rail emergency.

III. REQUIREMENTS

1. Employees discovering or being notified of a rail emergency will immediately contact the Test Controller and provide the following information:

   a. The caller's name, telephone number and identification number.

   b. The location of the emergency (by track number, direction, station name, mile post marker, cross street etc.).

   c. Description of the emergency, condition of passengers and the need for emergency assistance.

2. Test Control

   When Test Control becomes aware of an earthquake of significant magnitude, they will request all trains to stop (at platforms if possible), hold a minimum of five minutes, while Test Control evaluates the situation.

   a. Immediately upon observing or being notified of an emergency situation affecting the Rail System, Test Control will notify the appropriate police/fire departments.

   b. Notify the police/fire department of the exact location of the reported emergency, the street access to the nearest station and extent of emergency. (Log, badge or I.D. number of the person notified).

   c. Dispatch a Supervisor to the emergency scene to act as the On-Scene Coordinator. The On-Scene-Coordinator will transmit all pertinent information to Test Control, and institute control of the location and assist in implementing whatever emergency action is necessary.

d. Notify all trains approaching the emergency area, to stop and report their location.

e. Cause the interlocking signals (if operable), at adjacent interlockings on both sides of the emergency site, to display "STOP" signals, to prevent trains from entering the area.

f. Implement single tracking or shuttle operations on affected portions of the rail system, by use of Local Control Panels at each interlocking, when necessary.

g. Contact the Bus Dispatcher and request a bus bridge, when necessary.

h. Initiate Emergency Call Out List.

3. De-Energize the Overhead Catenary

a. When a verbal request is made to remove the traction power by an LACMTA employee, or the Police/Fire Department, Test Control will:

1) Obtain the person's name, title, identification number and department.

2) Request the reason for power removal.

3) Request time to clear the area of all trains affected by the power removal.

4) Remove catenary power and confirm that power has been de-energized.

NOTE: When an extreme emergency exists, remove power immediately on both tracks in the area of incident, or request emergency trip station be operated to remove power immediately.

4. TRAIN OPERATOR

In the event of an earthquake Train Operators shall be governed by the following:

a. Follow Instructions from Test Control.

When no instructions are received from Test Control and the earthquake is of sufficient magnitude:

1) Reduce speed to 10 MPH for track inspection.
2) Be alert for track, catenary or structural damage.
3) Continue inspection to next station, stop and contact Test Control.

TEST EMERGENCY PROCEDURE NO. 8

I. TITLE: **FIRE/SMOKE ON TRAIN OR IN RIGHT-OF-WAY**

II. PURPOSE

The purpose of this emergency procedure is to provide guidelines for emergency response and personnel action in the event of fire/smoke on a train or in the right-of-way.

III. PROCEDURES

1. TRAIN OPERATOR

   a. FIRE ON TRAIN - Train Operators discovering fire/smoke on board the train shall:

      1) Notify Test Control
      2) Continue to next station if possible
      3) Give train number, track, mile post and nearest station.

2. WHEN TRAIN STOPS:

   a. Notify Test Control.
   b. Give exact location.
   c. At the station, open all platform side doors and evacuate the train.
   d. Attempt to extinguish source of fire/smoke.
   e. When unable to reach the next station, move passengers and/or Test Personnel to unaffectad part of the vehicle.
   f. When not at a station, do not evacuate to the right-of-way until notifying Test Control. This will allow Test Control to stop all trains in the area and remove power before evacuation.
   g. When possible and after passengers have been moved clear of the affected car, attempt to uncouple good car and move out of the area.
   h. Update Test Control regularly.

3. NOTIFICATION

a. Train Operators or employees discovering or being notified of fire/smoke shall immediately notify Test Control and provide the following information:

1) Caller's name and identification
2) Location (track number, milepost and nearest station).
3) Extent of fire/smoke and location, when known.
4) Stop short of the area, when the fire is on the right-of-way

b.. Test Control shall instruct employees discovering a fire to attempt to extinguish it, when safe to do so.

c. When the fire cannot be extinguished, Test Control shall immediately implement the Emergency Call Out List.

d. Test Control shall provide the Fire Department with the following information:

1) Provide personal and agency identification.
2) Nearest station or cross street.
3) Nature and extent of the fire/smoke when known.
4) Provide the Fire/Rescue communications center with updated information as it becomes available.

4. LACMTA ON-SCENE COORDINATOR (OSC)

a. Test Control shall dispatch the RTOS Line Supervisor to the nearest station to act as the On-Scene Coordinator.

b. OSC shall:

1) Establish communications with Test Control and the Incident Commander at the scene.
2) Be responsible for coordinating all rail system activities and supporting the Incident Commander, Fire Department and other agencies.

5. TRACTION POWER REMOVAL REQUEST

a. When a verbal request for the removal of traction power is made by an employee or the Fire Department, Test Control shall:

1) Obtain the person's name, title, identification number, and department.
2) Request the reason for power removal.
3) Request time to clear the area of all trains affected by the power removal.
4) Remove catenary and confirm that power has been de-energized.

Note: When an extreme emergency exists, remove power immediately on both tracks in the area of incident or request the emergency trip station be operated to remove power immediately.

6. TRACTION POWER SERVICE RESUMPTION

a. OSC shall verify that the fire has been extinguished, all personnel are in the clear, and it is safe to restore power.

b. Test Control will notify the Power Supervisor of the request to restore power.

c. OSC shall ascertain that it is safe to resume train operations and advise Test Control.

d. Test Control shall notify all concerned departments.

CODE 2 ACCIDENT INVESTIGATION PROCESS
RECOMMENDED TOOLS & EQUIPMENT

6 Yellow Lights/Flags
Flashlight w/batteries
Emergency keys
Rail Emergency Maps with Utilities
Radio and/or Pager
Pocket change
Cellular Phone
Hard hat
Safety Vest
Gloves
Picture ID.
Emergency "Call Out" List
Carrying Case
10 Red lights/Flags
Portable Flood Light
Pencils with erasers
Clipboard with blank Check List Forms
Straight-edge, scale or template
Fifty Foot (50') non-metallic tape measure
One Hundred Foot (100') non-metallic tape measure
Tape recorder
Camera w/Flash Film (8 rolls)
Fluorescent Spray Paint
Chalk
Grease pencils

LIST OF EFFECTIVE PAGES (LOEP)

PAGE NUMBERS	PAGE STATUS	PAGE/AREA DESCRIPTION
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2	Original	Introduction
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21-26 27 28-30	Original Change 1 Original	Section IV - Signals
31-36 37	Original Change 1	Section V - Operating Rules
38-42 43 44,45 46 47,48 49	Original Change 1 Original Change 1 Original Change 1	Section VI - Mainline Operations
50-52 53	Change 1 Original	Section VII - Yard Operations
54	Original	Section VIII - Communications
55	Change 1	Section IX - Speed
55A, 55B	Change 1	Section X - Movement of Track Cars
56,57,58	Original	DIAGRAMS
59	Original	Title page (Testing Operations Procedures for Conducting Testing of the Metro Rail System)
60-61A	Original	Test Operations Procedure No. 1
62-64	Original	Test Operations Procedure No. 2
65 66,67	Original Change 1	Test Operations Procedure No. 3
68 69	Original Change 1	Test Operations Procedure No. 4

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81,82	Original	Test Operations Procedure No. 9
83,84	Original	Test Operations Procedure No. 10
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99-102	Original	DIAGRAMS
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106	Original	FORM
106A,106B & 106C	Change 1	Test Operations Procedure No. 16
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123-128	Original	Test Emergency Procedure No. 5
129,130	Original	Test Emergency Procedure No. 6
131-133	Original	Test Emergency Procedure No. 7
134-137	Original	Test Emergency Procedure No. 8
LOEP-1,2	Change 1	List of Effective Pages

(310) 643-3822 Yd Control
(310) 643-3807 Veh. MAINT.
(800) 396-2166 CCF
(310) 643-3861 INSTRUCTION
(310) 643-3854 Supervisors Room
(310) 643-3852 desk.

East Jct. 1

436.10

to end of

subway walkway

63.10' walkway over [illegible]

only to platform

29.2' to stairway