

DRAFT

Revision 1

1

LOS ANGELES COUNTY METROPOLITAN
TRANSPORTATION AUTHORITY

Office of System Safety and Security - Operations Safety

Metro Rail System
Emergency Response
Plan

Rail Systems

CONCURRENCE: _____ DATE: _____
Director of Operations Safety

CONCURRENCE: _____ DATE: _____
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Approval: _____ DATE: _____
Executive Officer, Transit Operations

IMPLEMENTATION

This document will be in effect upon signature by all of the above parties.

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METRO RAIL SYSTEM EMERGENCY RESPONSE POLICY

It is the prime objective of the Los Angeles County Metropolitan Transportation Authority (MTA) to move passengers safely within the framework of reliable and timely rail transit Operation.

It is the prime objective of the Los Angeles County Metropolitan Transportation Authority (MTA) to move passengers safely within the framework of reliable and timely rail transit operation. Occasionally, major emergencies occur which require the MTA to take actions which may interfere with efficient passenger movement and which require support services from participating departments and agencies of the Los Angeles area. To properly prepare for such emergencies, in conjunction with outside agencies, the MTA has prepared a Metro Rail System Emergency Response Plan so that all MTA departments, employees, and outside agencies will understand what is expected of them when and if a rail emergency does occur.

The MTA Metro Rail System Emergency Response Plan assists all departments in responding to rail emergencies and in understanding the rail procedures needed for the safety and health of our passengers and employees. As part of this process it outlines explicit guidelines to be followed. Each department and employee responding to a rail incident must clearly understand how to do their job and also be confident that their fellow employee will do his/her job properly.

The Metro Rail System Emergency response Plan contains guidelines for each type of emergency to assist departments in developing their Standard Operating Procedures and to provide an understanding of what is expected of employees. This will aid the employee responding to a rail emergency to perform in a predictable and dependable manner.

METRO RAIL SYSTEM EMERGENCY RESPONSE PLAN

All departments are responsible for training their staff and for carrying out their tasks as defined in the Metro Rail System Emergency Response Plan and associated procedures. Only by taking such a coordinated approach can we expect to obtain success in this area and achieve an optimum level of safety in MTA rail operations.

Revised 8/99

PART 2 - INTRODUCTION

Introduction

Purpose

To establish a Metro Rail System Emergency Response Plan containing guidelines for standard operating policy and procedures for the mobilization of MTA employees and resources during an emergency situation. To provide other public safety resources with the knowledge of MTA's response plan so as to provide a fast, controlled and coordinated response to the various types of emergencies which may occur on the MTA rail system.

MTA Rail Operation Priorities

Certain priorities have been set for MTA Rail Operations during an emergency situation. They are:

- Ensure Passenger and employee safety;
- Protect property
- Maintain service or provide an efficient alternate mode of service

MTA Overall Procedures

Procedures which are developed from these guidelines are to be maintained separately by the individual MTA departments. These Procedures which are developed should undergo review and/or re-certification on an annual basis.

Goal

The goal of this plan is to establish guidelines which would impact the fewest number of responders so the emergency situation can be mitigated with as little impact to the system as practicable and service can be restored as quickly as possible. To this end, only the personnel who are essential to respond to an emergency situation should be called to respond. As the incident grows the list of responders may grow in order to conduct the investigation and recovery effort which will be necessary for restoration of service.

MTA Employee Responsibilities

Each MTA employee who works on the rail systems has certain responsibilities. Among these are:

- Be familiar with the Operating Rules and Standard Operating Procedures which deal with emergency situations;
- Have in their possession the Rule Books, Vests, Certifications, Identification, and other equipment required to carry out their responsibilities;
- Respond to emergency situations when requested to provide technical and other assistance needed;
- Restore service with a minimal delay.

Definition of an Emergency

An emergency is a condition which may result in injury or death to a person or employees, or damage to equipment or property.

Objectives

Certain objectives must be met with the implementation of the guidelines in this plan. They are:

METRO RAIL SYSTEM EMERGENCY RESPONSE PLAN

- Minimize potential danger to passengers, employees, and others during emergency incidents;
- Maximize the effectiveness of the MTA during an emergency incident;
- Ensure there is proper investigation into the causes of the incident;
- Restore service or provide alternative service at the earliest possible time.

Scope

The Metro Rail System Emergency Response Plan sets forth guidelines for the emergency procedures which will be implemented by the MTA whenever there is an emergency situation on or adjacent to the MTA Rail System. Departments have the responsibility to develop, implement and maintain Standard Operating Procedures and checklists as a requirement of these guidelines. Other agencies will utilize these guidelines to develop an understanding of MTA response to an emergency situation.

This plan provides guidelines for:

- Reporting the incident;
- Notifying local emergency response agencies;
- Dispatching MTA Emergency Response personnel and equipment to the incident site;
- Responding to the incident;
- Evaluating and managing the incident;
- Keeping passengers, employees, emergency responders, and others updated as to the conditions which exist;
- Restoring transit service as soon as practicable.

Applicability

This plan is applicable to all MTA rail personnel whose duties include the preservation and protection of life and property during an emergency affecting the MTA rail system. Outside Public Agencies will utilize these guidelines to develop an understanding of MTA's roles and responsibilities during such emergencies.

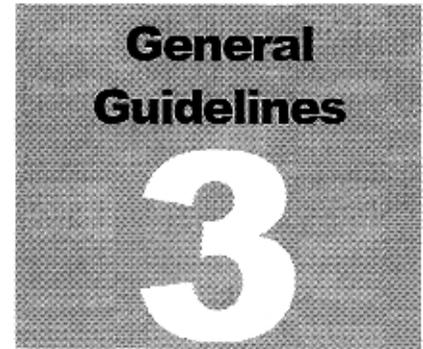
METRO RAIL SYSTEM EMERGENCY RESPONSE PLAN

The appropriate Standard Operating Procedures shall be implemented immediately upon learning that an emergency exists. No changes to this plan or to the guidelines presented shall be made without the concurrence of the Director of Operations Safety and the Rail Transportation Superintendent.

In case of a major disaster or catastrophic event, MTA employees and equipment may be requested to assist the MTA Emergency Operations Center or other agency to provide relief during the greater emergency.

Plan Revision

This plan will be reviewed triennially in accordance with the Review Processes described in the LACMTA Systems Safety Program Plan.



PART 3 - GENERAL GUIDELINES

MTA Emergency Control

Organization of the Rail Operations Control (ROC)

The Rail Operations Control (ROC) is the control center for all emergencies which affect mainline rail operations. The ROC has the authority and responsibility for implementing all rail emergency response requirements established in these guidelines. When an MTA emergency occurs, the ROC personnel shall evaluate the facts, as they are known, and determine the type and level of response required. They will commence notification or response personnel and agencies to affect quick mitigation of the emergency and to resume service in a timely manner.

The guidelines described throughout the Metro Rail System Emergency Response Plan are for mainline track and associated emergencies. Yard Control will manage incidents occurring within the Yard boundaries. This does not restrict the Yard Controller from requesting and receiving assistance from any department which may be required to mitigate the problem.

Use of Outside Agencies

General

Assistance shall be requested from an outside public agency or agencies when emergencies occur that require special skills or equipment which are not available within the MTA. These outside agencies which might be called upon for assistance could include, but would not be limited to:

- Fire Departments in whose jurisdiction the incident is located;
 - Emergencies which threaten life, safety or property loss on or in any MTA passenger facility, right-of-way, or property adjacent to MTA Property
- Police Agency who has jurisdiction over the area where the incident is located;
 - For Criminal Activities and investigation, traffic and crowd control, scene security. This may include one or more of the following agencies:
 - Police
 - Sheriff
 - Highway Patrol
 - MTA Security
 - Contracted Security
- Coroner's Office (Incident involving a fatality);
- Office of Emergency Services (if during a major disaster).

Fire Departments

Upon receiving notification of an emergency which requires the service of a Fire Department, the Rail Operations Control will notify the Fire Department (Metro Red Line) or the Law Enforcement Dispatcher, in accordance with their procedures for notification.

If a Fire Department is notified of an incident or emergency from a source other than the Rail Operations Control, the Fire Department will notify the Rail Operations Control when practicable.

The MTA is responsible for furnishing training manuals and materials to Fire Departments who may be requested to respond to an MTA emergency. This would also include training and training exercises for the Fire Departments for the purpose of enhancing their knowledge of MTA's rail systems.

Law Enforcement

When notified of an emergency at an MTA facility or on MTA or adjacent property, the Rail Operations Control will notify the LAPD for the Metro Red Line or the Law Enforcement Dispatcher who will contact the appropriate local, county, or state law enforcement agency who may have jurisdiction on the Metro Blue Line or Metro Green Line where the emergency is located.

The primary role of Law enforcement will include traffic and crowd control. Other duties may include, but would not be limited to:

- Accident Investigation;
- Passenger evacuation;
- Protection of Fire fighters and their vehicles;
- Emergency medical aid;
- Perimeter Control;
- Reports;
- Assist Incident Commander and On Scene Coordinator as needed.

Coroner

Upon notification by the Rail Operations Control, the County Coroner will respond to an MTA accident in the case of a fatality.

The Coroner shall not move the body until the investigating agency releases the scene.

Notifications of Emergencies

General

Timely, accurate and thorough reporting is essential for effectively controlling an emergency situation. Since appropriate response levels can only be determined after evaluating the facts from the scene of an emergency, as much information as possible must be obtained and transmitted to the responding agencies and departments.

Notifications are made in accordance with MTA's Code 2 call out priority list and must include all responding agencies and departments as well as the passing of information on to other trains in the area, passengers on trains and at the platform areas, and the media if there will be a long term service delay.

Reporting an Emergency to the Rail Operations Control

An employee having knowledge of an emergency situation at an MTA facility or on MTA Property or property adjacent to the MTA which might affect operations **must** report such situations to the Rail Operations Control immediately by whatever means available to them.

The report of such an incident must include as much information as possible so as to allow the Rail Operations Control, and other responding agencies to determine the level of response which may be necessary.

Rail Operations Control Communication of Facts

The Rail Operations Control shall make the appropriate notifications to responding agencies and departments. The ROC shall supply those being notified with as much information as possible so that the proper response level can be initiated.

The Rail Operations Control shall assure that notification is given to all trains operating on the line as well as to passengers both on trains and at platforms including any delays or alternate means of service which may occur due to the emergency situation.

Rail Operations Control shall notify any agency or other entity who may be affected by the emergency situation. Example of these notifications might include, but are not limited to:

- BOC
- Adjacent Railroads
- Utility Companies
- Pipeline Companies (Dig Alert, etc.)
- Street Departments

Notification of Emergency Condition

MTA Departments

Upon notification from the Rail Operations Control that an emergency situation exists, the duty supervisor shall notify the proper personnel to respond with the required equipment.

MTA Employees

Depending on the type and severity of the Emergency situation, the Rail Operations Control will initiate its Code 2 call out procedures and notify essential personnel.

Outside Agencies

The Rail Operations Control will notify the appropriate outside agencies of the emergency situation. The agency will, with the information provided by the Control Center, determine the level of response required. This would be applicable not only to police and fire agencies but also other support agencies as needed.

If the emergency situation involves more than one jurisdiction then the Incident Commander will be determined by prearranged agreement and will direct the operation of all the agencies responding.

If it is deemed necessary, the Incident Commander may assign a representative(s) to the Rail Operations Control to act as liaison and assist with communications.

Responders

SEMS

The State of California has developed the *Standard Emergency Management System* (SEMS) which incorporates a specific Incident Command Structure to be utilized when response to an emergency situation is required. The Los Angeles Metropolitan Transportation Authority has adopted this Management System as have all other public agencies within our service area. SEMS will give all responders an understanding of actions taken at the scene by other agencies as well as provide a base for our response. *Appendix B* provides an organizational structure to SEMS as applies by the LACMTA.

Incident Commander (IC)

An emergency situation which requires the response of the fire department for life, safety and protection of property, the responding Fire Department will designate an Incident Commander. The IC's duties include, but are not necessarily limited to:

- Incident Management
- Establishing an Incident Command Post
- Mitigating the Hazard or Emergency
- Provide situation updates to the ROC through the On-Scene Coordinator

An emergency situation which requires the response of a police agency as a result of criminal activity would require that the police agency designate an Incident Commander. The Law Enforcement IC's duties include, but are not necessarily limited to:

- Incident Management
- Establishing the boundaries of the incident
- Establish an Incident Command Post
- Provide situation updates to the ROC through the On-Scene Coordinator

Rail Transportation Operations Supervisor (RTOS) - On-Scene Coordinator

Upon notification of an Emergency situation, the Rail Operations Control will designate a Rail Transportation Operations Supervisor (RTOS) to assume the duties of On-Scene Coordinator (OSC). The RTOS/OSC will act as MTA's representative to the Incident Commander. On-Scene Coordinator duties include, but are not limited to:

- Act as liaison to the Incident Commander
- Be the *sole* communicator between the emergency scene and the ROC
- Establish boundaries for the Emergency Situation
- Assume control of the incident as the MTA Representative
- Assign duties and responsibilities to responding employees
- Investigate the incident
- Maintain a log of responding employees
- Release responding employees when no longer needed
- Maintain a log of events
- Request personnel and equipment which may be needed for the restoration of service.
- Restore service as soon as practicable
- Update the ROC as the situation progresses and changes
- Establish priorities at the emergency site
 - Life, Health, and Safety, as directed by the IC
 - Investigation
 - Restoration of Service

MTA Vehicles Assisting in the Emergency Situation

MTA vehicles including hi-rail and car movers must be made available for use at the emergency site. The On-Scene Coordinator will request their use if needed, or requested by the Incident Commander.

Emergency Vehicle Operators, i.e. those operators of on-track or hi-rail vehicles, must be prepared to set on the tracks with the approval of the ROC. They must not enter the boundaries of the Emergency Scene without approval from the On-Scene Coordinator.

Emergency Scene Boundaries

The Incident Commander in conjunction with the On-Scene Coordinator shall establish the boundaries for an incident. All movement and work within these boundaries shall be under the control of the On-Scene Coordinator who will, in conjunction with the Incident Commander, establish priorities to mitigate the Emergency and restore service as soon as practicable.

**Incident
Guidelines**

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PART 4 - INCIDENT GUIDELINES

General

MTA personnel respond to various types of emergency situations. Among these are:

- Fire and smoke on a train or in the right-of-way
- Train Derailment or collision
- Equipment Failures
- Injury or Fatality
 - Train v. Vehicle
 - Train v. Pedestrian
 - Injury on the Platform or right-of-way
- Right-of-Way Intrusion
 - Trespasser
 - WIDS intrusion
- Hazardous Material Incidents
 - Hazardous Materials Spill
 - Hazardous Materials on the right-of-way
 - Unknown Hazardous Substance

- Earthquakes
- High Velocity Winds
- Power Outages
- Flooding
- Bomb Threats, Explosions, or suspicious Packages
- Hostage or Barricaded Subject

These types of incidents require a coordinated response of several departments and agencies. The actions of the MTA must be predetermined so as to provide quick resolution to the situation as well as an understanding of our procedures to other agencies who may respond.

MTA Responders or Departments who may be present at or involved in all of the emergency situations may include but are not necessarily limited to:

- Train Operator
- Rail Operations Control
- Rail Transit Operations Supervisor
- On-Scene Coordinator
- Facilities Maintenance
- Maintenance of Way (Track, Signal, Traction Power)
- Vehicle Maintenance
- Press/Media Relations
- Operations Safety
- Rail Management Staff

Each of these responders has specific duties or responsibilities which must be accomplished. Each of these responders has specific actions which must be taken at all emergency situations. They include, but are not limited to:

- Train Operator
 - Notify the Rail Operations Control if the Emergency Situation involves his train or if he spots trouble.
 - Give nature of the problem
 - Give the location of the problem
 - If at all possible, continue on to the next station for the safety of the passengers
 - Assume the duties of On-Scene Coordinator until relieved by a Rail Transportation Operations Supervisor
 - Keep Patrons informed
 - Take charge of evacuation according to Standard Operating Procedures.

- Rail Transit Operations Supervisor - On-Scene Coordinator
 - MTA Representative
 - Liaison with Responding agencies at Command Post
 - Maintain log of Responders and their duties
 - Maintain Communications with the ROC
 - Request alternate means of transportation for patrons if required
 - Media Relations
 - Assign duties to responding MTA employees

- Accident Investigation
 - Record Required Measurements
 - Request needed equipment and materials
 - Request needed personnel
 - Gather witness statements
 - Courtesy Cards
 - Preserve Evidence
 - Establish Boundaries

- Responding Staff (Vehicle Maintenance, Traction Power, Signal, Safety, Administrative, et. al.) who may be required to be at the scene depending on the severity of the incident.
 - Report to the On-Scene Coordinator upon arrival and depart the scene only with authorization from the On-Scene Coordinator.
 - Assist the On-Scene Coordinator in any way requested
 - Have required equipment
 - Rule book
 - Vest
 - Identification
 - Flash Light (If in tunnel or at night)
 - Breathing Equipment (e.g., Self Rescuer if applicable)
 - Have tools available which may be needed to mitigate the emergency;
 - Be prepared to utilize and assist with technical skills and abilities;

Responding Staff (Other)

- Media
 - Handle Press Relations for the On-Scene Coordinator

**Specific
Incident
Guidelines**

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PART 5 - SPECIFIC INCIDENT DUTIES

Specific Incidents

There are several specific incidents which must be addressed through Standard Operating Procedures which must be developed by each respective department based on the guidelines presented in this plan. These include:

- Fire/Smoke on Train or in Right-of-Way/Tunnel
- Train Derailment/Collision
- Equipment Failures
- Injury or Fatality
- Right-of Way Intrusion
- Hazardous and Toxic Material Spills
- Unknown Hazardous Substance
- Earthquakes
- High Winds or Flooding
- Power Outages
- Bomb Threats, Explosions, or Suspicious Packages
- Hostage or Barricaded Subject

Call out List

Each of the instances mentioned must have a specific response initiated to efficiently mitigate the hazards being addressed. The “Code 2” call out list must consider two primary categories:

- Those Required to Respond to efficiently mitigate the hazard and to resume service in a timely manner,
- Those who need to be notified for informational or report purposes.

Responders

Only those persons who have a definite function at the emergency scene should respond to the scene. This would include the On-Scene Coordinator, Transportation Management, Vehicle Maintenance, Traction Power, Signal, Track, or others as needed. The On-Scene Coordinator must make that determination as early as possible into the incident.

Informational

Those departments or individuals who are required to develop reports or to report to others both within and outside of the agency must be notified of an incident. Depending upon the severity of the emergency, these persons may also be required to respond if their technical knowledge or expertise are required or if the incident is of such magnitude so as to attract of media or outside agency attention.

Methodology

A checklist or flip chart should be developed for each of the above emergency situations. This list or chart will identify actions to be taken in a logical order to

effectively mitigate the incident being addressed. These lists or charts should include, but not be limited to:

- Responders (department), including outside agencies such as Fire and Police, by function so that the emergency situation can be mitigated and service restored in a timely manner.
- Informational Personnel so they have the required information to pass on either within the organization or to other agencies having an interest in the emergency situation.

APPENDIX A - GLOSSARY

Glossary

Block: Length of track of defined limits, the use of which is controlled by signals, cab signals or controller's orders.

Blue Light Stations: Designated location within the rail system, identified with a Blue Light, where Traction Power may be de-energized and emergency telephones are located.

Bus Bridge: Bus transportation provided for MTA rail passengers between stations where train service has been temporarily discontinued.

Code - 1: A general alert from the Rail Operations Control

Code - 2: Serious Accident. Police/Ambulance responding

Command Post: The physical location where the Incident Commander(s) and the On-Scene Coordinator meet and make decisions during an emergency.

Control Point: A signal, sign, or specified location designating the beginning and end of a block.

Crossover: Arrangement of tracks and switches providing a route from one track to another.

Emergency: A condition that may result in injury or death to persons, employees, or damage to equipment and property.

Emergency Medical Services (EMS): A medical organization which provides or controls the response of ambulance service.

Emergency Scene: That area, within designated boundaries, where an emergency situation has occurred and to where emergency response personnel/agencies report, work, and control all operations. The entry into this area is controlled by the Incident Commander.

Emergency Telephone System (E-Tel): A dedicated telephone system located throughout the system providing direct communication to the proper authority.

Guideway: That portion of the MTA system within protective fencing, tunnels, stations or aerial structure wherein trains operate.

METRO RAIL SYSTEM EMERGENCY RESPONSE PLAN

Hi-rail Vehicle: A vehicle with rubber tires, equipped with steel flanged wheels that allow the vehicle to be operated on or off the tracks.

Incident Commander: That person so designated who has responsibility for activities at an emergency scene.

Incident Train: A train which is involved in an emergency situation.

Incident Train Operator: The operator of a train that is involved in an emergency situation.

Interlocking: An arrangement of signals and switches so interconnected that functions must succeed each other in a predetermined sequence, which permits train movements over route only when non conflicting conditions exist.

Mainline: Territory controlled by the Rail Operations Control consisting of main track, interlockings, turnback tracks, tail tracks and yard lead tracks to the yard limit sign.

Maintenance Shift Supervisor: An employee at the shops who has jurisdiction over normal maintenance activities and normal vehicle movement within shop limits.

Maintenance-of-Way Access Point: A location equipped with facilities for rail-to-road, road-to-rail, or on-foot access to mainline trackway.

Mile Post: A marker indicating the distance in miles from an identified location.

On-Scene Coordinator: That MTA employee at the scene of an emergency who is responsible for coordinating all investigative, recovery and vehicle movements within the boundaries of the emergency scene.

Overhead Catenary System (OCS): 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.

Passenger Loads:

- Light - Cars with some vacant seats
- Seated - Cars with all seats occupied
- Heavy - Cars with standing patrons

Power Off: An indication at the Rail Operations Control of de-energization of traction power systems. This indication provides no assurance of safety.

Public Address (PA): A communication system from the train operators or the Rail Operations Control to passengers on the train and/or at stations.

Rail Operations Control (ROC): Location from which Mainline Operations are authorized and directed.

Rail Operations Control Supervisor (Senior Controller): An employee at the Rail Operations Control who oversees all day-to-day operations of the system and the activities of the employees at the center. The Senior supervises, monitors, and co-ordinates all MTA emergency situations affecting operations.

Rescue Train: Rail vehicle(s) used to transport rescue personnel, passengers, or to retrieve disabled rail vehicles.

Revenue Service: Transportation of fare paying passengers on main line routes.

Revenue Train: One or more cars, coupled together, transporting fare paying passengers on a specified schedule on main line routes.

Right-of-Way (ROW): Designated area of mainline and yard within fences or medians.

Route: The path a train follows through crossovers or interlocking.

Shop Limits: Specific location designating limits between Yard and Shop.

Substation: A facility used to transform 34.5 KVAC to lower voltages for distribution to station facilities.

Subway: An underground facility for train operations.

Sweep Train: First train to operate over any section of Mainline track each day or after an interruption of service exceeding one hour. Train Operators shall operate at restricted speed and be alert, stopping short of:

- obstructions on the track
- damage to track, contact rail, OCS, or wayside signals
- improperly aligned switches
- conditions which may be hazardous to the operation of trains.

Should hazardous conditions exist, trains shall be stopped and the condition reported to the Rail Operations Control.

Third Rail: (Contact Rail) Electrical conductor (adjacent to running rail) which provides 750 VDC to the vehicle through contact with collector shoes on the vehicle.

Train Operator: Rail employee responsible for direct control and responsibility for the safe movement of a train.

Ventilation: The operation of a fan, or combination of fans, so that air moves in a pre determined direction in subway areas.

METRO RAIL SYSTEM EMERGENCY RESPONSE PLAN

Wayside: That area of the right-of-way immediately adjacent to the running rails, up to and including 14 feet.

Yard: Facility for maintenance or storage of vehicles

Yard Control: Location from which yard operations are authorized and directed.

Yard Controller: Designated employee on duty in Yard Control, or other location, having authority over train movements and other activities within yard limits.

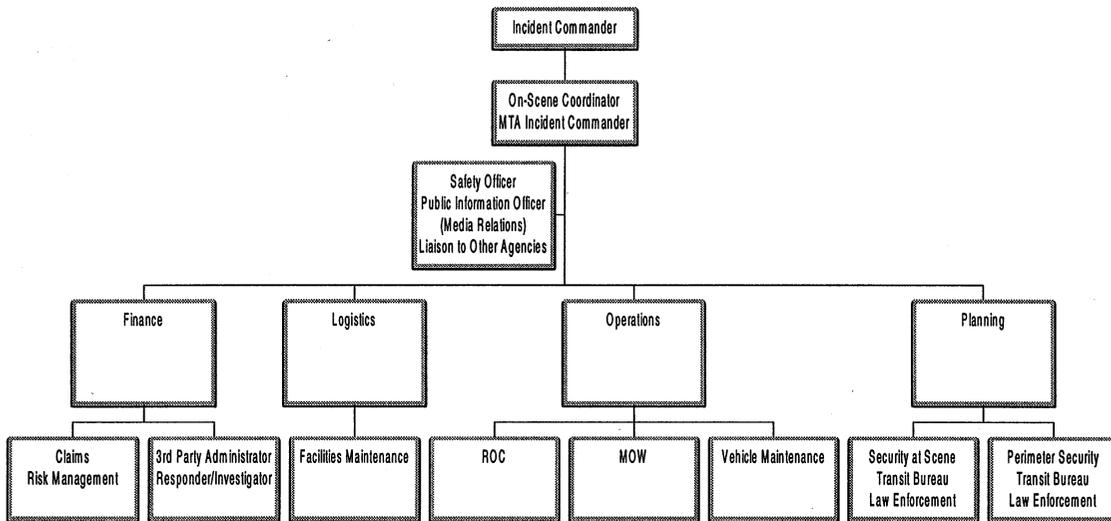
Yard Limits: Specific location designating limits between Yard, Shop and Mainline.

APPENDIX B - LACMTA SEMS INCIDENT COMMAND STRUCTURE

SEMS

The MTA On-Scene Coordinator will report to the Incident Command Post or to the Fire or Police personnel assigned or acting as Incident Commander. The OSC will afford the Incident commander what ever assistance we can to mitigate the situation and restore service.

MTA Incident Command Structure



APPENDIX C - EARTHQUAKE MEASURES COMPARISON

Richter Scale

Magnitude	Intensity	Acceleration	Damage & Remarks
Richter Scale	Modified Mercalli Max at Epicenter	G	
2	I-II		Usually detected only by instruments
3	III		Felt indoors similar to light truck passing
4	IV-V	.02	Felt by most similar to heavy truck passing. Damage: unstable objects overturn
5	VI-VII	.04 - .125	Felt by all; Structure damage; Specially designed negligible; Ordinary substantial - minor to moderate.
6	VII-VIII	.125-.250	Structure damage: specially designed - slight; ordinary - substantial - moderate; poorly built - major
7	IX - X	.50	Structure damage: Specially designed - major
8+	X-XI		Structure damage: major total

METRO RAIL SYSTEM EMERGENCY RESPONSE PLAN

APPENDIX D - EFFECTS OF WIND

Beaufort Scale

Winds Equivalent - Beaufort Scale				
Beaufort Number	MPH	Knots	International Description	Specifications
0	<0	<0	Calm	Calm: Smoke rises vertically
1	1 - 3	1 - 3	Light Air	Direction of wind shown by smoke drift but not wind vanes
2	4 - 7	4 - 6	Light Breeze	Wind felt on face, leaves rustle, vanes moved by wind.
3	8 - 12	7 - 10	Gentle Breeze	Leaves and small twigs in constant motion, wind extends light flag.
4	13 - 18	11 - 16	Moderate	Raised dust, loose paper; small branches moved.
5	19 - 24	17 - 21	Fresh	Small trees in leaf begin to sway; crested wavelets form on inland waters
6	25 - 31	22 - 27	Strong	Large branches in motion whistling heard in telegraph wires; umbrellas used with difficulty.
7	32 - 38	28 - 33	Near Gale	Whole trees in motion. Inconvenience felt walking against wind.
8	39 - 46	34 - 40	Gale	Breaks twigs off trees; Impedes progress
9	47 - 57	41 - 47	Strong Gale	Slight structural damage occurs..
10	55 - 63	48 - 55	Storm	Trees uprooted; considerable damage occurs.
11	64 - 72	56 - 63	Violent Storm	Wide Spread Damage.
12	73 - 82	64 - 71	Hurricane	Wide Spread Damage.

RAIL ACCIDENT PROCEDURES



**Los Angeles County
Metropolitan Transportation Authority**

REVISION #1

Prepared by

**The Office of System Safety and Security
Operations Safety**

Baseline: September 20, 1990

CHIEF EXECUTIVE OFFICER'S STATEMENT

Protection of our patrons, employees and property is of utmost importance to the MTA. In order to maximize the effectiveness of the MTA'S efforts toward achievement of this goal, the Rail Accident Procedures have been developed.

These procedures detail the accident reporting procedures from notification and accident investigation to the preparation of the final report, and implementation of corrective measures. They also detail the responsibilities of various departments in the event of an accident, occupational injury, fires, and certain other emergency events occurring in the operation of MTA's rail system. The investigations of these incidents must be performed in a coordinated and efficient manner by following these procedures. These investigations may then result in the implementation of corrective actions which prevent or mitigate recurrences.

Accident procedures and investigation of accidents are only two elements in the strategy of improving system safety, but these are areas that must be taken very seriously by all MTA employees. These procedures provide a means of unifying and focusing MTA efforts in the accident investigation process.

All departments are responsible for carrying out their tasks as defined in the Rail Accident' Procedures. Only by taking such a coordinated approach can we expect to obtain success in this area and achieve an optimum level of safety in MTA rail operations.

Respectfully,

Julian Burke

PREFACE

These procedures are intended to provide a means of minimizing service delay and effectively investigating rail system emergency events including, but not limited to, accidents, fires, and occupational injuries by utilizing available MTA resources. This involves a cooperative team approach making use of the specific expertise of various departments.

The costs associated with accidents and injuries go far beyond direct costs such as equipment repair or replacement and medical costs. The indirect costs of these incidents include those related to retraining of replacement employees, losses in productivity, administrative time spent on the investigation, and many others.

It is hoped that these procedures will serve as a tool to assist in the accident process and investigation of rail accidents and other emergency response events. These procedures, through accident documentation and investigation, will assist in the development of system improvements to mitigate similar incidents.

Although some of these procedures relate specifically to the investigation of major rail accidents and/or other emergency events as defined in the manual, many of the practices described can also be applied to the investigation of less serious incidents to further our goal of providing safe and reliable transportation to the public.

The Operations Safety Department will periodically issue page revisions to the manual as the need arises. We welcome your comments regarding the effectiveness of these procedures and look forward to joining you in this cooperative effort.

Respectfully,

Robert H. Torres
Director of Operations Safety

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PART 1 - GENERAL OVERVIEW

1.1 INTRODUCTION

1.1.1 OBJECTIVES

The objective of this document is to define the role and responsibilities of specific individuals, departments and agencies who are required to respond to rail accidents and incidents which occur within or affect the Los Angeles County Metropolitan Transportation Authority's (MTA) rail operations.

The procedures contained in this document are intended to facilitate achievement of the following objectives:

Promote welfare of patrons and employees, allow MTA attorneys, Risk Management, and Claims Administrators to evaluate all potential incidents with regard to their potential for involving MTA as a party in litigation.

Provide incident information for evaluation to prevent accidents and/or provide assistance in risk reduction in potential accidents.

Improve system safety by effectively reporting and investigating all rail accidents including major accidents, emergency events, and fires; and to implement corrective measures to prevent or mitigate recurrences.

Control the costs related to these incidents.

1.1.2 SCOPE

These procedures apply to the accident/incident site control, documentation of events, and investigation of all rail accidents/incidents.

Some minor incidents and/or accidents can be handled by the Rail Operator alone, while other minor incidents and/or accidents will require the Rail Operator, Rail Transit Operations Supervisor and the Los Angeles Police Department/Los Angeles Sheriff Department (LAPD/LASD) to provide the resources to address rail accidents.

Serious accidents and incidents require the involvement of the Emergency Response Personnel, consisting of a Rail Transit Operations Supervisor, acting as an On-Scene Coordinator, a Transportation Operations

Supervisor, an Operations Safety Representative, a Maintenance-of-Way (MOW) Representative, a Facilities Maintenance Representative, an Equipment Maintenance Representative, a Press Relations Representative, outside agencies, e.g., LAPD/LASD Officer/Deputy or local police agency officer a Personal Liability/Property Damage (PL/PD) Claims Administrator Representative, and regulatory agencies, e.g., CPUC, Cal/OSHA.

As defined by the ROC SOP #106.2, serious incidents/accidents are known as Code 2 Accidents on the Rail System. Code 2 Accidents are rail accidents which involve one or more of the following:

1. Fatality.
2. MTA vehicle or other vehicle vs. Automobile, motorcycle, bicycle, pedestrian, alighting or boarding passenger or passenger(s) on any MTA property which results in a serious injury. For purposes of this procedure, an injury is deemed serious if the individual(s) are transported to a medical facility for treatment by an employee or outside agency.
3. Any Mainline or Yard derailment
4. Any accident/incident which compromises the safety of patrons/passengers and requires the evacuation of a train or station.
5. Fires or explosions on an MTA vehicle, facility or construction site.
6. Multiple injuries claimed. Multiple is defined as "three or more."
7. Collisions involving train vs. Train or other track or wayside equipment.
8. Accidents or major incidents involving Mainline interlocking plants.
9. MTA vehicle vs. two or more vehicles, a house or building resulting in damage.
10. Accident/Incident involving a runaway MTA train/vehicle resulting in damage or injury.
11. Chemical spills involving radioactive substance, solvent, flammable or corrosive liquid, other toxic liquid or the uncontrolled release of a compressed gas

or hazardous substance.

12. An on-duty employee suffering a serious injury.

13. Injuries, regardless of severity, resulting from the use of a weapon (something to fight with).

Note: An industrial injury occurring at a MTA Facility or construction site will be classified as a Code 2 Accident if the incident involves one or more of the above elements.

An Incident is an occurrence or condition which if not corrected could affect the safety and reliability of the rail transit system. Incidents are events which require notification of support personnel to resolve or eliminate the situation. Examples of typical incidents are:

- Broken or Faulty Automatic Crossing Protection (gates, Lights, Bells, etc.)
- Broken or Faulty Signals (false indications, dark signals, "T" signals not operating, etc.)
- Broken or Faulty Control/TRACS Indications (false indications or alarms, loss of control or display, etc.)
- Broken or Faulty Wayside Equipment (CCTV's, power, signals, tracks, fencing, stations, etc.)
- Broken or Faulty Vehicle equipment (ATP's, doors brakes, propulsion, train lining, PA's, etc.)
- Violations of Instructions, Orders, and/or Bulletins (signal violations, disregard of instructions, etc.)

A supervisor or support personnel generally will be requested to assist in resolving an incident. Responding personnel are requested to follow-up each incident with a brief report which describe the problem and corrective action taken. A copy of the report shall be copied to Operations Safety within 24 hours of the occurrence.

Accidents/incidents can be broadly classified as follow:

Train vs. Train Accident
Train vs. Auto Accident
Train vs. Pedestrian Accident

Derailment Accident
Train vs. Equipment Incident
Train vs. Other Incident
Passenger Incident
Station/Facility Incident
Employee Incident
Smoke/Fire Incident
Other Miscellaneous Incidents

1.1.3 ACCIDENTS/INCIDENTS IN THE
UNION PACIFIC TRANSPORTATION RAIL CORRIDOR

If an accident or incident occurs on the Union Pacific Transportation Rail Corridor abutting an LRT track and/or an LRT facility, Union Pacific and/or other Railroads shall immediately notify the MTA Rail Operations Control as to location, type, and make-up of the accident.

The location shall be described as per Union Pacific's Mileage and Subdivision. It should also include the LRT tracks involved and the physical location as close as possible regarding streets, LRT stations, etc.

The type of accidents/incidents to be included in notification shall be Derailment, Collision, Chemical Release, and/or broken equipment e.g.; signals, switches, crossing protection. Describe the magnitude of the accident/incident. The description should indicate whether the accident fouls LRT trackage or involves fire, explosion, cars rolled over, chemical release, etc.

The reported make-up of the accident shall include; type of commodities, e.g., hazardous goods, petroleum products, acids, chlorine, etc.; nature of accident, e.g., fire, escaping gases, broken cargo, leaks, etc.; location of these commodities with regard to closeness to fire; number and type of injuries; emergency response teams dispatched; action taken by Union Pacific, etc.

1.1.4 LOCAL POLICE AND/OR FIRE DEPARTMENT INCIDENTS

If an unrelated accident/incident which occurs in the area of the MTA's rail system requires the police or fire departments to obstruct tracks, run hoses over and/or across tracks, and/or may impact the corridor due to fire location or police activity, the police and/or fire departments shall immediately notify the MTA's Rail Operations Control as to location, magnitude, type, and

make-up of the accident.

The location shall be as per local street intersection, portions of system involved, e.g., tracks, stations, grade crossings, and indicate the physical location as it relates to the system, if along the right of way as close as possible regarding street, stations, etc. The types of accidents/incidents to be included in notification shall be;

- Road/Pedestrian
- Road/Property
- Shooting in Close Proximity
- Equipment Obstructing Tracks
- Fire on Property
- Fire in Close Proximity
- Chemical Release

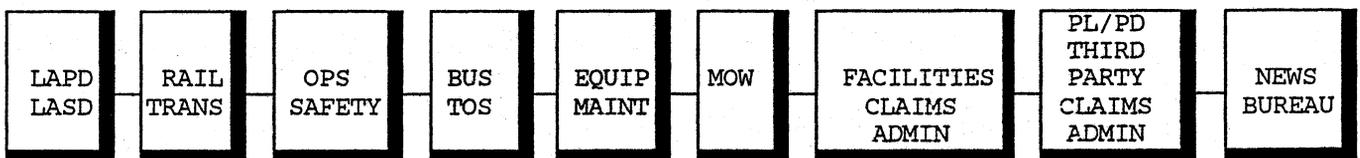
The reported make-up of the accident shall include type of vehicles; type of homes, buildings, etc.; commodities involved; extent of fire; injuries; emergency response teams dispatched; and action taken by the Police and/or Fire Department(s).

1.1.5 EMERGENCY RESPONSE TEAM AND NOTIFICATION

Response to the scene of Code 2 accidents is carried out by the Emergency Response Representatives of various departments and sections as shown below. All activities at the accident scene are coordinated by the On-Scene Coordinator in accordance with the Metro Rail System Emergency Response Plan.

EMERGENCY RESPONSE NOTIFICATION

NOTIFICATION IS FROM LEFT TO RIGHT IN DESENDING ORDER

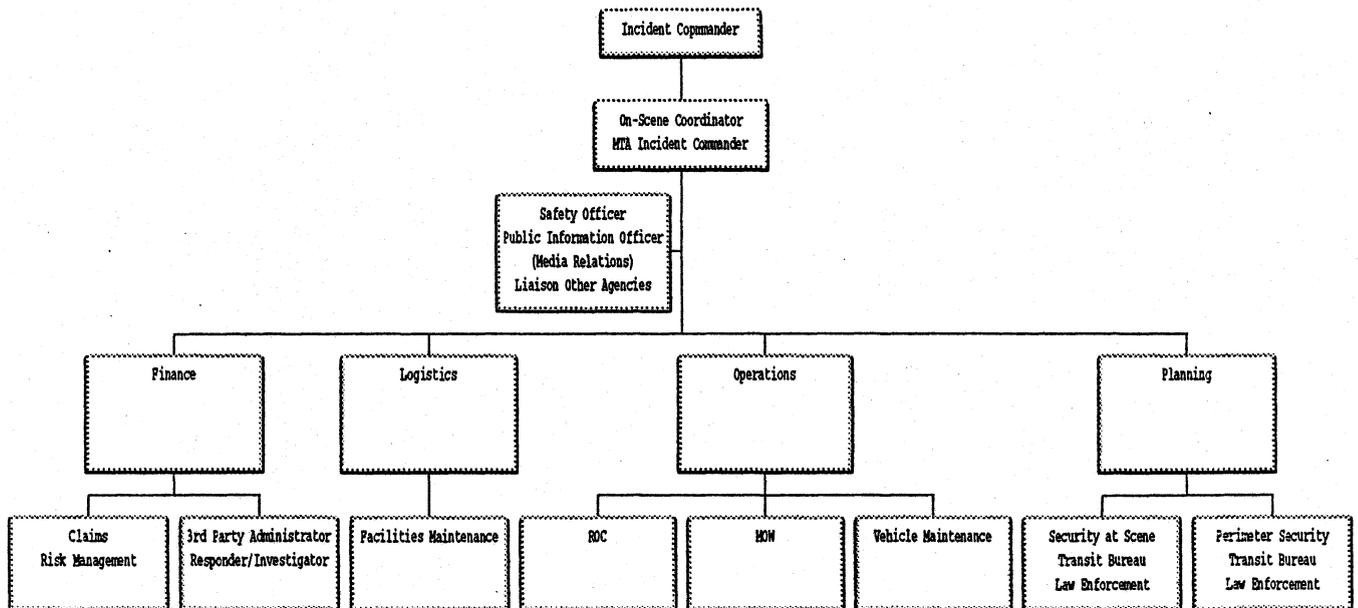


1.1.6 ACCIDENT/INCIDENT PROCESS

To understand the participants involved with various classifications of rail transit accident/incident investigations, the following general overview of participant response and responsibilities are outlined below. For detailed explanation of each department's responsibility and procedure, refer to Part 3 of this Manual.

SEMS

The MTA On-Scene Coordinator will report to the Incident Command Post or to the Fire or Police personnel assigned or acting as Incident Commander. The OSC will afford the Incident Commander what ever assistance we can to mitigate the situation and restore service.



INCIDENTS

- Operator** - Informs Rail Operations Control of Incident
- Prepares OPERATOR'S RAIL ACCIDENT/INCIDENT REPORT

**Rail
Operations
Control
Staff**

- Documents Accident/Incident
- Resolve the problem and prepares a report on the findings and actions taken. Report must be submitted to Operations Safety within 24 hours.

MINOR ACCIDENTS

- Operator** - Informs Rail Operations Control of Minor Accident
- Prepares OPERATOR'S RAIL ACCIDENT/INCIDENT REPORT

**Rail
Operations
Control
Staff**

- Documents Accident/Incident
- Dispatches a Rail Transit Operations Supervisor (Rail TOS) to the scene
- Informs LAPD/LASD Dispatch Center about the incident.

**Rail TOS/
On-Scene
Coordinator-**

- Arrives at scene
- Takes control of scene and announces himself/herself as the On-Scene Coordinator
- Arranges for OPERATOR'S DRUG and ALCOHOL TESTING as per MTA POLICY
- Prepares RAIL TOS ACCIDENT/INCIDENT REPORT and PHOTOS

- LAPD/LASD** - Dispatches units as required
- Co-ordinates with On-Scene Coordinator and other Law Enforcement Agencies in Accident Investigation
- Prepares their respective agency's incident report with photos
- Arranges to provide copies of LOCAL POLICE REPORTS

CODE 2 ACCIDENTS

- Operator** - Informs Rail Operations Control of Major Code 2 Accident
- Prepares OPERATOR'S RAIL ACCIDENT/INCIDENT REPORT

**Rail
Operations
Control
Staff**

- Documents accident/incident
- Dispatches a Rail Transit Operations Supervisor (Rail TOS) to the scene
- Informs LAPD/LASD Dispatch Center about the accident and required assistance needed.
- Dispatches Rail Emergency Response Team and other personnel as requested which includes Rail TOS, Bus TOS, Safety Representative, MOW Representative, Facilities Maintenance Representative, Equipment Maintenance Representative, PL/PD Third Party Claims Administrator Representative, and News Bureau Representative.

**Rail TOS/
On-Scene
Coordinator-**

- Arrives at scene
- Takes control of scene and announces himself/herself as the On-Scene Coordinator

- Arranges for OPERATOR'S DRUG and ALCOHOL TESTING as per MTA POLICY
 - Coordinates with the Incident Commander
 - Determines what Recovery Squads will be required (if any) and requests control to dispatch the appropriate squads
 - Request technical inspections as necessary
 - Request technical assistance from the Rail Emergency Response Team to aid in the recovery and restoration of service
 - Prepares TOS/ON-SCENE Coordinator ACCIDENT/INCIDENT REPORT complete with SKETCHES, STATEMENTS and PHOTOS
- LAPD/LASD**
- Dispatches Units as required
 - Coordinate with the On-Scene Coordinator and other Law Enforcement Agencies in Accident Investigation
 - Coordinates with the Los Angeles Fire Department (LAFD) if needed.
 - Prepares their respective agency's accident/incident report with photos.
 - Arranges to provide copies of LOCAL POLICE REPORTS

PART 2 INVESTIGATION PROCESS

2.1 GENERAL

2.1.1 INVESTIGATION STAGES

This section of the manual provides a general description of the investigation process. Detailed procedures for specific departments are shown in Part 3 of the manual.

The accident investigation process consists of three main stages:

- a. Preparation
- b. Investigation
- c. Result (Implementation of Corrective Measures)

2.2 PREPARATION

2.2.1 PROCEDURES

Advance preparation and training is essential to ensure that the MTA effectively investigates accidents. This preparation will ensure that adequate resources are available to investigate accidents and that these resources are successfully utilized. The Operations Safety Department will update the RAIL ACCIDENT INVESTIGATION PROCEDURES every three years and distribute revised pages as the need arises.

2.2.2 INVESTIGATION EQUIPMENT

Each department will maintain an adequate supply of investigation equipment for its personnel who respond to and investigate Code 2 events, accidents, and/or fires. Appendix B contains a list of items useful in accident investigation.

2.2.3 INVESTIGATOR TRAINING

Each department will ensure that its personnel who are responsible for responding to and investigating Code 2 events, accidents, and/or fires receive adequate training in accident response and investigation techniques. Transportation Safety Institute (TSI), in Oklahoma provides training in accident investigation techniques.

2.3 INVESTIGATION

2.3.1 NOTIFICATION

In the event of a Code 2 accident, the Rail Operations Control will contact members of the Emergency Response Personnel.

2.3.2 RESPONSE

Upon notification by the Rail Operations Control that a Code 2 accident has occurred, members of the Emergency Response Team will proceed to the accident scene in a safe manner and report to the On-Scene Coordinator.

2.3.3 AT-SCENE ACTIVITIES

The On-Scene Coordinator at the accident scene shall ensure that adequate professional assistance (e.g., fire department personnel) are present or have been summoned if needed to care for the injured and control any life threatening conditions.

Investigation activities at the accident scene should then focus on the preservation of evidence. The evidence can later be used in the investigation of the accident. Methods of preserving evidence include the following:

- a) Photography
- b) Interviews
- c) Measurements and Drawings
- d) Debris Collection

At-scene activities also include the dissemination of information to the news media and the resumption of service. Responsibilities for at-scene investigation activities are detailed in Part 3 of this manual.

2.3.4 MULTI-DEPARTMENTAL INVESTIGATIONS

Accidents of extreme severity (e.g., fatalities, major fires, etc.) will be evaluated by the Operations Safety Department's Safety Section to determine whether the accident warrants an investigation utilizing the combined resources of two or more departments. Such joint investigations will be classified as Multi-Departmental Investigations and may entail the use of outside consultants.

Initiation of Multi-Departmental Investigations will be announced by the Operations Safety Department. In the absence of such an announcement, the accident or fire will be investigated by the appropriate department.

2.3.5 FOLLOW-UP ACTIVITIES

Follow-up activities consist of all investigation activities performed after the accident scene has been cleared including the following:

- a) Collection and review of equipment specifications, inspection records, maintenance records, etc.
- b) Collection and review of reports (e.g., police, coroner, Vehicle Accident/Incident Report, etc.) generated as a result of the accident.
- c) Performance and review of Operator and witness interviews.
- d) Inspection of physical evidence (if needed).
- e) Accident reenactment (if needed).
- f) Laboratory testing.
 - Review of applicable procedures and historical records.
 - Review of charts, drawings, photographs and other relevant documents.
- g) Review Training Records - Certification.
- h) Meetings

- i) Participation in the Multi-Departmental Investigation Committee reviews of Special Reports (Section 2.3.6) including contributing factors, recommendations and corrective action plans.

The Operations Safety Department will issue a Multi-Departmental Investigation Report that will summarize the remedial action plans and implementation schedules agreed upon by the various departments.

Responsibility for conducting follow-up activities in Multi-Departmental Investigations are identified in Part 3 of this manual.

2.3.6 SPECIAL REPORTS

In Multi-Departmental Investigations, the Operations Safety Department may request that various departments produce Special Reports which may include the departments' analyses of the accident. These reports will focus on specific aspects of the accident (e.g., equipment defects, human error, violation of rules, etc.) that may identify causes and other contributing factors of the accident.

2.4 **RESULT**

2.4.1 **IMPLEMENTATION OF CORRECTIVE ACTIONS**

The corrective action recommended in the Multi-Departmental Investigation Report and/or Special Reports will be implemented by the respective departments to prevent or mitigate similar accidents.

PART 3 - ROLES AND RESPONSIBILITIES

3.1

GENERAL

The following sections support the foregoing accident process but identify and expand on the individual roles and responsibilities within the MTA organization. The following information has been established to ensure that each Department and personnel within each section understand and provide support to the Rail Accident Procedures.

This section identifies the staff positions within each department that have responsibility for overseeing and performing that particular department's tasks at Code 2 Accident scenes and in any follow-up Multi-Departmental Investigations. Departmental tasks are identified and listed in a sequential order which should maximize evidence preservation. However, the particular accident or event may necessitate performing these tasks in an order other than that identified.

3.2 OPERATIONS SAFETY DEPARTMENT

3.2.1 PREPARATION

The Operations Safety Department has primary responsibility for developing and updating the Accident Investigation Procedures. In addition, it will identify accident investigation and reconstruction training resources for use by other departments and will identify sources and types of accident investigation equipment.

3.2.2 NOTIFICATION AND RESPONSE

The Operations Safety Department will be notified of all Code 2 Accidents by the Rail Operations Control. The Operations Safety Representative will respond and report to the On-Scene Coordinator.

3.2.3 AT-SCENE PROCEDURES

The on duty Operations Safety representative will notify the On-Scene Coordinator upon arrival at the accident scene. He/She is responsible for coordinating Safety activities at the accident scene and assisting the On-Scene Coordinator in recovery of service.

3.2.4 NOTIFICATION TO REGULATORY AGENCIES

The On-Call Operations Safety Representative shall provide telephone notification to Regulatory Agencies in accordance with existing requirements of the CPUC, FTA, and NTSB.

3.2.5 FOLLOW-UP PROCEDURES

The Operations Safety Department is responsible for all follow-up activities during Multi-Departmental Investigations. CPUC shall be notified regarding follow-up activities of investigations. On Code 2 Accidents where a Train Hold has been issued, the follow-up activities shall commence within 24 hours after the occurrence. On accidents which require further detail as determined by PL/PD Third Party Claims Administrator Representative, these requirements will be reviewed, and if necessary, Operations Safety shall

notify all departments that a second follow-up investigation may be required. Appendix A depicts a safety check lists for rail, and accident/incident response diagram, and graphical depiction of the reporting process. The Operations Safety Department follow-up activities includes the following:

- a) Assess the accident severity and determine whether the investigation will be a Multi-Departmental Investigation and request Special Reports as necessary.
- b) Initiate a Findings Report briefly summarizing accident and contributing factors.

3.3 RAIL OPERATIONS CONTROL

The Rail Operations Control is responsible for documenting the event.

3.3.1 NOTIFICATION AND RESPONSE

In the event of an Accident and/or Incident either Code 1 or Code 2, the Rail Operations Control shall immediately notify the appropriate Emergency Response Personnel in accordance with existing ROC SOP #106.2.

The Rail Operations Control is responsible for maintaining service and preserving radio and SCADA/TRACS information prior to, during, and following all Code 2 Accidents.

The Rail Operations Control shall control and document: power requests, tunnel ventilation and dispatch of appropriate response personnel, if additional emergency response personnel are required, to assist the Emergency Response Team.

3.3.2 FOLLOW-UP ACTIVITIES

Provide copies of the daily log and unusual occurrence reports associated with the accident to the Operations Safety Department within 48 hours after the accident and/or occurrence.

3.4 RAIL TRANSIT OPERATIONS SUPERVISOR

The following is intended to identify Rail TOS tasks related to accident investigations. The Rail TOS shall be responsible for the initial investigation and completion of the required reports.

3.4.1 PREPARATION

Accident investigation training will be provided by Rail Operations and the Operations Safety Department to all MTA personnel responsible for investigating accidents. The Rail Operations Department will supply adequate investigation tools and equipment to all Rail Operations Department personnel responsible for investigating accidents.

3.4.2 NOTIFICATION AND RESPONSE

The Rail Operations Control will notify the Rail TOS of all Accidents/Incidents. The Rail TOS will respond to all serious accidents/incidents and, when requested by the Rail Operations Control, to minor accidents. Accidents are classified by the Rail Operations Control as minor accidents if they do not meet any of the criteria of the Code 2 Accident.

3.4.3 AT-SCENE PROCEDURES

The Rail TOS at the accident scene will announce himself/herself as the On-Scene Coordinator and establish Command Post for MTA activities. He/She will wear an On-Scene Coordinator vest for identification. The Rail TOS ensures that all necessary investigation activities are performed on serious accident scenes and is in charge of investigation activities at the accident scene. The Rail TOS is responsible for gathering and preserving evidence. The Rail TOS is also responsible for relaying information to ROC. The Rail TOS is responsible for performing the following tasks.

- a) Upon arrival at the scene of serious accidents, the Rail TOS On-Scene Coordinator will contact the Operator and determine what help is needed, obtain train and service numbers, observe if adjacent tracks are blocked, estimate length of delay, then notify the Rail Operations Control reporting the following

information:

Note: In the event of a Train Operator being injured and unable to complete the Operator's Report, the Rail TOS shall attempt to complete the form based upon information from the accident scene and so indicate.

- 1) A detailed description of the accident.
 - 2) Determine if medical assistance is required.
 - 3) Determine if emergency equipment is needed to clear the track and/or street.
 - 4) Determine if a bus bridge or recovery train will be needed.
- b) Arrange to transport the Train Operator for routine Drug and Alcohol Testing as MTA Policy.
- c) Determine if a command post for MTA activities is required.
- d) Collect Accident Evidence. The On-Scene Coordinator may delegate these responsibilities to other MTA personnel responding at the scene.
- 1) Identify all vehicles, parties and witnesses involved in the accident.
 - 2) Prepare a detailed sketch of the track and road surface indicating measurements to the location of all evidence including the train and other vehicles; tires and wheels (to document the final resting position of vehicles); skid mark beginning and ending points; road surface gouge mark beginning and ending points; debris; point(s) of impact; fluid trail beginning and ending points; damage to fixed objects; and any other relevant items.

The sketch and measurements should be of sufficient detail to create an accurate drawing later of all components of the rail transit system (i.e. vehicle, rails, ties, signals, catenary, Third Rail, etc.).

These measurements and sketches should include but not be limited by the following:

- the resting place of all equipment, vehicles (including automobiles), wheel sets, rail trucks, etc.
 - the visual sight-lines for all four quadrants as seen on approach to the accident/incident if it appears to be a contributing factor.
 - overhead catenary system damage and equipment placement if applicable.
 - any traction power Sub-Station physical and operational damage and/or extent of accident on such equipment if applicable.
 - any signal house damage and/or wayside cases affected by the accident if applicable.
 - distance traveled from the point of impact or point of derailment or resting place for each vehicle in the train and each automobile if applicable (for LRT accident).
 - final resting position of the involved pedestrians.
 - configuration/make-up of the Train.
 - signal locations shall be measured as to the distance to the final resting place of Train after the accident if applicable.
 - gouges, debris trails, skid marks, and other grade surface markings.
 - track configuration, and alignment in both directions from the accident shall be checked, measured, and recorded on the sketch.
- 3) Photograph evidence and the accident scene (including items mentioned in task number 2). The photographs taken shall establish an overall view from all four angles plus detailed photos of the individual components not residing in their normal travelling position (i.e. trucks derailed, scattered skirting, rails mis-aligned, signals damaged, switch points mis-aligned, overhead catenary fouled, etc.)

If possible, photos of trucks showing brake placement, valve placement, breaker panels, and cab control settings at time of accident should be taken.

If possible, Photos of all damaged property, fatalities, equipment, etc., should be covered from all four angles to ensure that complete and thorough documentation exists.

- 4) Interview witnesses and obtain statements if possible.
- 5) For the items listed in Task Number 2, take and record measurements to enable reestablishment of evidence locations after the scene has been cleared.
- 6) Obtain statement from Operator if possible.
- 7) Obtain police officer's statement and I.D. number.
- 8) Photograph, collect, containerize, and label debris samples, if relevant to the investigation, (e.g. inoperative LRT tail light bulbs, if the LRT was rear ended; photograph operative bulbs while lit if possible if the Train has been rear ended).
- 9) All debris, parts, etc., shall be collected for transport to location where storage will be provided until released.
- 10) Record the names of the injured, type of injuries and the hospitals to which they were Transported.
- 11) Review operator's console, document defects indicated, and photograph the console, breaker panels, and valve positions.
- 12) Determine and record whether the Operator performed a pre-trip safety inspection.
- 13) Determine and record whether the Operator was in a braking mode and what type at the time of the accident.
- 14) Maintain documentation of evidence placed in the train or vehicle for transport to the respective Division 11/20 until given to the Rail Operations Control representative and verification of such

evidence transfer has been made by Division 11/20 to maintain the chain of evidence.

- e) Disseminate information to authorized MTA personnel at the scene.
- f) Inform the Operations Safety representative and the response personnel at the accident scene when there is no longer a need to hold equipment in the final resting position at the accident scene.
- g) Responding Vehicle Technician will determine at the accident scene when the MTA vehicle(s) involved can be driven, towed, etc. The Rail TOS On-Scene Coordinator will ensure that a recovery train and/or tow trucks are requested as necessary to clear the accident scene and to transport equipment.
- h) In the case of all serious accidents, Equipment Maintenance will arrange for the Train to receive a complete inspection and/or testing.
- i) In the absence of a Press Relations representative, delegate media responsibilities.
- j) If an ambulance is called, note the time of arrival, name of ambulance service and unit number, badge number of investigating police officer and name of hospital to which the injured person was taken. Call Rail Operations Control for further orders as soon as accident is cleared.
- k) Keep the ROC informed at regular intervals.

3.4.4 FOLLOW-UP PROCEDURES

The Division Manager shall:

- a) Provide copies of all sketches, photos, and unusual occurrence reports associated with the accident to the Operations Safety Department within 48 hours after the accident and/or occurrence.
- b) Produce Special Reports for Multi - Departmental Investigations if requested to do so by the Operations Safety Department.

- c) Provide assistance in the recommendations for procedural and/or response activity changes to expedite system recovery.
- d) Take any warranted corrective action necessary to prevent or mitigate recurrences.

3.5 **BUS TRANSIT OPERATIONS SUPERVISOR**

The following is intended to identify Bus TOS tasks related to accident assistance.

3.5.1 **PREPARATION**

Accident investigation assistance training will be provided by Transportation to all MTA personnel responsible for assisting the Rail TOS in investigating accidents. In addition, Transportation will supply adequate investigation tools to all Transportation personnel responsible for investigating accidents.

3.5.2 **AT-SCENE PROCEDURES**

The Bus TOS shall report to the Rail TOS/On-Scene at the accident/incident and assist at his/her direction.

3.6 RAIL OPERATORS

The following is intended to identify Operator responsibilities related to accident investigations.

3.6.1 PREPARATION

Accident investigation training will be provided by Rail Operations and the Operations Safety Department to all MTA personnel responsible for investigating accidents. The Rail Operations Department will supply adequate investigation tools to all Rail Operations Department personnel responsible for investigating accidents.

3.6.2 AT-SCENE

Rail Operator's Responsibilities:

- a) Call Rail Operations Control and describe the type of accident, and location.
- b) Stop the train safely with good train handling techniques.
- c) Protect self and passengers from hazards created by the accident.
- d) Check for signs of fire
- e) Only evacuate the train if instructed by ROC. Ensure that all area traffic has stopped and it is safe to do so, evacuate the train.
- f) Check for injured passengers.
- g) Attempt to extinguish any fires, if possible, without taking undue risks.
- h) In case of injuries, protect the injured parties, but do not attempt to move them, unless they require assistance in evacuating if a fire is involved. Do not volunteer ambulance service or ask persons if an ambulance is desired, unless it is obvious that such service is necessary. However, if a person requests an ambulance, immediately notify ROC and the Emergency Response Personnel.
- i) If involved with another vehicle, obtain names and

addresses of driver, owner, and other occupants of vehicles involved. Obtain driver's license and insurance company information (See Appendix D).

- j) Obtain information regarding make, color, model, year, license number (year and state) and extent of damage to vehicle(s) involved.
- k) Pass out Witness Courtesy Cards only to bystanders and other persons who were in a position to have witnessed the accident and so indicate. If injuries occurred on that train, use Witness Courtesy Cards and indicate on the card "passenger". Attach the Witness Cards to the report and submit them with the report.
- l) Provide the police and other driver(s) with necessary information.
- m) Do not make any statements until debriefed.

3.7

RAIL TRANSPORTATION DIVISION MANAGER

3.7.1

FOLLOW-UP PROCEDURES

The Transportation Division Manager is responsible for co-ordination of Transportation follow-up activities in all accidents and/or incidents. These activities include the following:

- a) Interview the Operator(s).
- b) Ensure completion of the appropriate forms (e.g., Operator's Rail Accident/Incident Report, Rail TOS Reports and all other Transportation Reports associated with the severity of the accident.
- c) Provide copies of the Operator's Rail Accident/Incident Report and any other witness reports or unusual occurrence reports associated with the accident to the Operations Safety Department within 48 hours after the accident and/or occurrence.
- d) Participate in and prepare Special Reports for Multi - Departmental Investigations if requested to do so by the Operations Safety Department. The reports should include a review of contributing factors and recommendations as well as a Corrective Action Plan.
- e) Implement remedial action necessary to prevent or mitigate recurrences.
- f) Inform the Director of the Operations Safety Department in writing of the status of planned actions as well as when the planned actions have been completed.

3.8 VEHICLE MAINTENANCE

The following is intended to identify the Vehicle Maintenance's tasks related to accident investigations.

3.8.1 PREPARATION

Accident documentation training will be provided by Rail Operations to all Vehicle Maintenance personnel responsible for responding to and documenting accident/incidents. In addition, the Vehicle Maintenance Department will supply adequate investigation tools and equipment to all maintenance personnel responsible for investigating accidents.

3.8.2 NOTIFICATION AND RESPONSE

The Rail Operations Control shall notify the appropriate Emergency Response Personnel, if and when, the On-Scene Coordinator determines that the accident warrants their involvement.

3.8.3 AT-SCENE PROCEDURES

When Emergency Response Personnel respond to a serious accident, they shall report to the Rail Transit Operation Supervisor/On-Scene Coordinator and perform the following tasks.

- a) Provide information and/or assistance to the On-Scene Coordinator as requested.
- b) Evaluate the accident scene and prepare such notes that a report on the findings can be prepared.
- c) Prepare recommendations to the On-Scene Coordinator, in regard to their specialty, for expediting the return to normal revenue service.
- d) If the nature of the recovery can accommodate safe movement at a reduced speed or through single track operations responding personnel shall discuss the option with the On-Scene Coordinator. Jointly agree on the most practical and expeditious way to resume service.

- e) The Emergency Responding Personnel shall have the final say on technical issues relating to safety and shall document the options and solutions. These options and solutions must be discussed with the On-Scene Coordinator for concurrence.

3.8.4 FOLLOW-UP PROCEDURES

Emergency Response Personnel from each department shall complete an Accident/Incident Report and send a copy to the Operations Safety Department within 48 hours of the Accident. Each responding department will coordinate any follow-up activities related to Multi-Departmental Investigations in which their squad is involved.

- a) Provide personnel as necessary for the purpose of equipment testing and accident reenactment.
- b) Provide technical data and recommendations as appropriate, according to established procedures.
- c) Take any remedial actions necessary to prevent or mitigate recurrences.

3.9 RESPONDING DEPARTMENTS

All responding departments shall ensure that their personnel responsible for responding to accident investigations have been Safety trained as well as trained in accident investigation techniques.

3.9.1 QUALITY ASSURANCE

Upon notification of a train being involved in an accident, Quality Assurance (QA) will arrange to have the train placed on hold until an thorough inspection can be made to determine the worthiness of the train vehicles. This inspection will consist of an analysis of all components and systems which may have been affected by the accident. It will also include whatever tests, such as braking, which may be required to verify that the train either is or is not operating according to specifications.

A report of this inspection shall be prepared and copies sent within 48 hours to the Director of Operations Safety.

3.9.2 EQUIPMENT INSPECTION

Upon its arrival at the Maintenance Facility, the accident/incident train shall be secured so that the Quality Assurance Inspection can take place without outside interference. The entire train shall be examined for compliance to equipment specifications as reflected on the checklist. This inspection shall provide documentation of the train as it presently exists immediately following the accident. This inspection also aides in establishing a detailed cost estimate of the train/vehicle damage. This inspection should include, but not be limited to:

- a) Review of pertinent maintenance and inspection records
- b) Documentation of all cut-outs and bypasses activated
- c) Documentation of all mis-aligned or aligned valves
- d) Documentation of train line system functions

- e) Document levels associated with sub-components such as Brake pressure, recharge rates, sand levels, etc.
- f) Document interior and exterior lights functioning or their failures
- g) Document measurements and/or tolerances of brake pads, flange wear, etc.
- h) Document braking rates, slip-slide performance, etc. if at all possible.

The results of this inspection must be forwarded within 48 hours, in writing, to the Director of Operations Safety. The Director of Operations Safety will then determine if further investigation by his department, or a Multi-Department Investigation will be required.

3.9.3

VEHICLE MAINTENANCE

Upon notification of a train being involved in an accident, the Equipment Maintenance Department will dispatch personnel to the scene. The responding technicians will report to the On-Scene Coordinator and offer their assistance. The Vehicle Technicians will also check the train involved in the accident/incident to determine if the train can be moved. If required, the Vehicle technician will require the train be towed or moved by an alternative method to the point where Quality Assurance will inspect the train.

If **NO IRREGULARITIES** are found on the accident train, the Vehicle Technical Support Supervisor shall inform the vehicle maintenance section and arrange for the train break-up and routine maintenance and repairs to be conducted. These inspections and repairs shall be documented.

If **IRREGULARITIES** are found on the accident train, the Vehicle Technical Support Supervisor shall immediately put a "**HOLD**" on the entire train and inform the Director of Operations Safety.

The Superintendent of Rail Equipment Maintenance is responsible for coordinating Vehicle Maintenance Department follow-up activities for all Investigations. The Vehicle Maintenance Department will be required to provide documentation and assist in Multi-Departmental

Investigations. This participation will include, but not necessarily be limited to:

- a) Document the findings and inspections. Forward these results within 48 hours to the Director of Operations Safety.
- b) Ensure the preservation of physical evidence by refraining from repairing equipment until it has been determined that a Multi-Departmental Investigation is *not* going to be initiated. If such a Multi-Departmental Investigation *is* initiated, then the Superintendent of Rail Vehicle Maintenance shall await the determination of the Director of Operations Safety as to when the equipment can be repaired or moved.
- c) The Director of Operations Safety will determine if an outside assistance, such as a consultant or laboratory testing, is needed and which department, Vehicle Maintenance or Operations Safety, will oversee the work done.
- d) The Superintendent will be informed of, and will inform the Director of Operations Safety, when an outside agency, local, state, or federal, contact the MTA concerning the equipment, procedures, or employees related to the accident/incident.
- e) The incident vehicle will not be repaired until approval has been given by the Director of Operations Safety.
- f) If required, the Superintendent of Rail Equipment Maintenance, will arrange for brake and other tests and inspections.
- g) The Superintendent of Rail Vehicle Maintenance will ensure that all of the appropriate forms, reports, and other materials are complete and forwarded within 48 hours to the Director of Operations Safety.
- h) The Superintendent of Rail Equipment Maintenance will participate in the Multi-Departmental Investigation if such an investigation is initiated.

Will keep the Director of Operations Safety informed of any Corrective Actions taken as well as the status of such actions.

3.9.4 MAINTENANCE OF WAY (MOW)

When notified of a serious accident the Maintenance of Way Department will assign appropriate personnel to the scene as requested by Rail Operations Control. At the scene they will:

- a) Upon arrival at the scene the responding personnel will report to the On-Scene Coordinator and offer their assistance and inform the On-Scene Coordinator of their specialty;
- b) evaluate the accident scene in accordance with their specialty and report on the findings which can then be prepared;
- c) Recommend corrective actions to the On-Scene Coordinator so as to minimize service delays;
- d) Initiate the repair needed to restore service.

The Superintendent of MOW will forward a written report of the incident including any Corrective Actions taken, within 48 hours to the Director of Operations Safety.

The Superintendent of MOW will be a member of the Multi-Departmental Investigation if such an investigation is initiated.

3.9.4.1 TRACK REPORT

Those employees responding from the Track Department shall report to the On-Scene Coordinator and offer to assist in any way possible. They will identify their specialty and are responsible for putting together a report which may include some, if not all, of the following:

- a) Inspect the track from a point of 1000 Feet in approach to the point of incident looking for wear, cross-level, gauge, profile, switch position, frog or point wear, alignment, etc.;

- b) Identify any unusual marks on the track structure which may have a bearing on the accident/incident;
- c) Provide or request photographs of the track structure so as to strengthen the written report;
- d) Provide a history of what has been done in the area as part of the report; and
- e) Provide previous inspection activities in and around the accident/incident scene as part of the report.

The Track Department will prepare a written report containing the information gained from their on-scene activities and forward it to the Director of Operations Safety within 48 hours after the event.

3.9.4.2 SIGNAL DEPARTMENT

Those employees responding from the Signal Department shall report to the On-Scene Coordinator and offer to assist in any way possible. They will identify their specialty and are responsible for putting together a report which may include some, if not all, of the following:

- a) Inspect the signaling system, including crossing protection and the approach circuits. This might include status event recordings, circuit continuity, power condition, equipment condition, etc.. This would require preservation of data from a period of 2 hours prior to the accident/incident to 1 hour past the time of the accident/incident;
- b) Document functions performed on each component at the scene;
- c) Describe any markings on the signal equipment or circuits which may have a bearing on the accident/incident;
- d) Provide photographs where they can aid in a description or an understanding of the written material;
- e) Provide previous signal inspection in the area of the accident/incident as part of the report.

The Signal Department will prepare a written report containing the information gained from their on-scene activities and forward it to the Director of Operations Safety within 48 hours after the event.

3.9.4.3 Traction Power

Those employees responding from the Traction Power Department shall report to the On-Scene Coordinator and offer to assist in any way possible. They will identify their specialty and are responsible for putting together a report which may include some, if not all, of the following:

- a) Document power inspections for the accident scene and support services. This may include, but not be limited to, status, fluctuations up to , during, and after the accident/incident, circuit continuity, power condition, equipment condition, breaker condition and position;
- b) Document inspection activities and repairs made on each component;
- c) Describe the nature and location of any markings on power equipment, circuits that bear ton sequence or cause of the accident;
- d) Provide photographs where they can aid in description or understanding;
- e) Provide the last power inspection report as part of the report.

The Traction Power Department will prepare a written report containing the information gained from their on-scene activities and forward it to the Director of Operations Safety within 48 hours after the event.

3.9.5 FACILITIES MAINTENANCE - SCADA AND COMMUNICATIONS

Once an accident occurs, the Operations Safety Department may request a detailed report be generated which might include some or all of the following information:

- a) data from a period of 2 hours prior to 1 hour after the accident/incident. (SCADA);

- b) Document the environmental fluctuations and other critical data which may have a bearing on the accident/incident;
- c) Document any Communications findings such as condition of equipment including handsets and consoles; telephones, and the like;
- d) Document any inspection activity and repairs made or Corrective Actions taken as a result of the accident/incident;
- e) Inspect and document any markings or other visual evidence related to the accident/incident;
- f) Provide previous inspection reports as part of the report.

Facilities Maintenance shall also:

- a) Provide personnel as necessary for testing and accident re-enactment;
- b) Provide technical data and recommendations.

The Facilities Maintenance Department [SCADA and Communications] will prepare a written report containing the information gained from their on-scene activities and forward it to the Director of Operations Safety within 48 hours after the event.

3.9.6 Rail Facilities Maintenance

When notified of an Accident/Incident at an MTA rail facility, Rail Facilities Maintenance will assign staff to the scene for the purpose of assisting in the restoration of service. Upon arrival at the scene they will:

- a) Report to the On-Scene Coordinator and offer their assistance;
- b) Provide whatever emergency equipment may be available to assist in mitigating the problem;
- c) Assist in restoring the area to a usable condition.

If requested by the Operations Safety Department, the

Facilities Maintenance Department will generate a special report within 48 hours of the accident/incident including their activities.

3.9.7 NEWS BUREAU

Upon notification of an accident/incident the News Bureau will assign a representative to represent the MTA to the Media. The representative's duties will include, but not be limited to:

- a) Contacting the On-Scene Coordinator for information regarding the accident/incident;
- b) Establish a liaison between the On-scene coordinator and the media;
- c) Obtain copies of all media materials (video, audio, print, etc.) of the accident/incident;
- d) Keep the Director of Operations Safety informed of all media requests and actions.

If requested by the Director of Operations Safety the News Bureau will write a Special Report within 48 hours outlining their activities at the accident/incident.

3.9.8 LOS ANGELES POLICE DEPARTMENT (LAPD)/
LOS ANGELES COUNTY SHERIFF'S DEPARTMENT (LASD)

Upon Notification of a Code 2 Accident/Incident the LAPD/LASD will respond to the scene of the accident/incident. At the scene they will:

- a) Coordinate with the On-Scene Coordinator;
- b) Ensure the care of any injured employees or patrons;
- c) Provide security for MTA employees, equipment, and facilities as necessary;
- d) Assign personnel to adjacent stations, if necessary, to assist with crowd control;
- e) Aid in securing the Accident/Incident Scene and the evidence;
- f) Coordinate activities with other police agencies;

- g) Coordinate investigative activities so as not to interfere with emergency operations and recovery operations.

Upon completion of the event:

- a) Provide Copies of the Accident/Incident Report to the Director of Operations Safety within 48 hours or as soon as possible;
- b) Supply copies of Witness Statements, other agency reports, Unusual Occurrence Reports to the Director of Operations Safety within 48 hours or as soon as possible;

Assist with the Multi-Departmental Investigation if requested.

3.9.9

THIRD PARTY PL/PD CLAIMS ADMINISTRATOR

Rail Operations Control will notify the MTA PL/PD Claims Administrator of all Code 2 accidents for rail. If requested, the Claims Administrator will assign personnel to respond to the scene.

At the scene the PL/PD Claims Administrator will:

- a) Report to the On-Scene Commander for the purpose of coordinating his activities;
- b) Assist with witness identification and interviews;
- c) Perform Investigative Activity and evidence gathering independent from that of the On-Scene Coordinator and/or Operations Safety's investigation.

After the fact responsibilities:

- a) Develop a report of the incident to be submitted to the Director of Risk Management;
- b) Co-ordinate follow up investigative activities and interviews;
- c) Facilitate requests for supplementary information from the Risk Management Operations Safety, and other departments;

d) Participate in SAP.

3.10 CONSTRUCTION ACCIDENTS/INCIDENTS AT MTA RAIL FACILITIES

3.10.1 NOTIFICATION AND RESPONSE

When informed of an accident/incident at an MTA Facility, the ROC shall inform the Director of Facilities Engineering, or his pre-designated representative according to the engineering discipline needed;

If the accident/incident occurs at a construction site, the Resident Engineer shall analyze the situation and report to the Rail Operations Control Center as to the severity of the accident/incident. He will also:

a) Give a brief description of the accident/incident including:

- type of accident/incident
- location
- injuries
- need for emergency or medical responders;

b) Assume the duties of On-Scene Coordinator;

c) Secure the area as well as practicable so as to preserve evidence;

d) Initiate investigation activities into the probable cause and contributing factors of the accident/incident including photographic evidence;

e) Initiate a report for the Director of Operations Safety;

f) Participate in Multi-Departmental Investigation if one is formed.

Prepare a Report of the Accident/Incident and forward it to the Director of Operations Safety within 48 hours or as soon as possible.

APPENDIX A

REPORTING PROCESS

Rail Safety Report Check List

Accident Response Diagram

Accident/Reporting Process

LOS ANGELES METROPOLITAN TRANSPORTATION AUTHORITY

RAIL SAFETY REPORT CHECK LIST

ACCIDENT/INCIDENT NUMBER: _____

TYPE: _____ DATE: _____ TIME: _____

LOCATION: _____

REPORTS RECEIVED:

◦ Operations Safety Flash Report _____

◦ Photographs _____

Rail Transportation Reports

◦ Rail Operations Control Daily Log _____

◦ Rail Operations Control Unusual Occurrence Report _____

◦ Rail Operator's Report _____

◦ Rail TOS Report _____

LAPD/LASD Reports

◦ LAPD Report _____

◦ LASD Report _____

◦ Police Report - Local _____

MOW Reports

◦ Track Report _____

◦ Signal Report _____

◦ Power Report _____

◦ Facilities Report _____

Rail Facilities Report

◦ Facilities Report _____

Rail Vehicle Maintenance Reports

◦ Maintenance Report _____

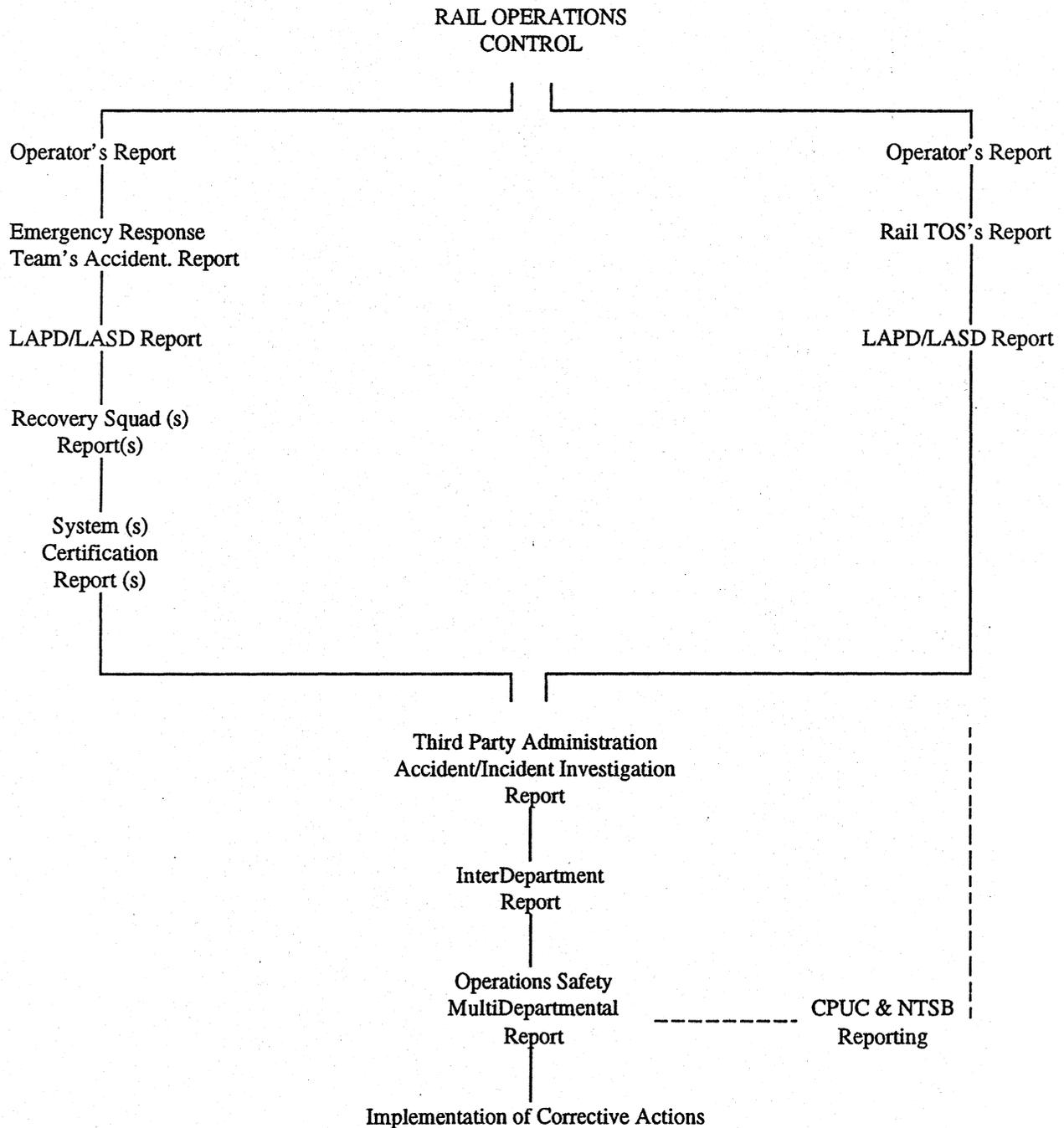
QA Report

◦ QA Inspection /Investigation Report _____

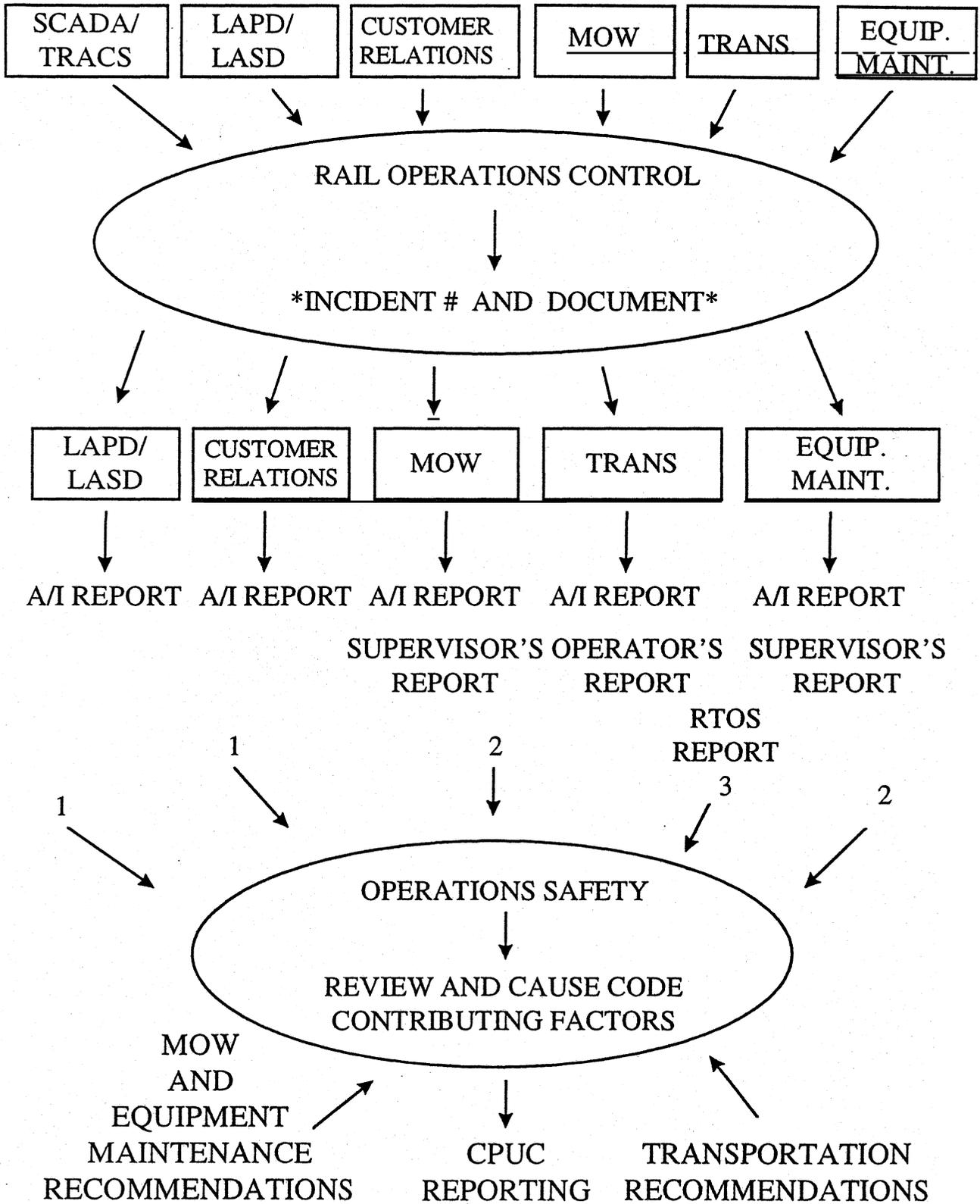
ACCIDENT/INCIDENT RESPONSE DIAGRAM

MAJOR ACCIDENT

ACCIDENT/INCIDENT



ACCIDENT/INCIDENT REPORTING PROCESS



APPENDIX B

RECOMMENDED TOOLS & EQUIPMENT

6 Yellow Lights/Flags
10 Red Lights/Flags
Portable Flood Light
Pencils with erasers
Clipboard with Blank Check List Forms
Straightedge, scale or template
Fifty Foot (50') nonmetallic tape measure
One Hundred Foot (100') nonmetallic tape measure
Tape Recorder
Camera with Flash Film (8 rolls)
Fluorescent Spray Paint
Chalk
Grease Pencils
Flashlight and Batteries
Emergency Keys
Rail Emergency Maps with Utilities
Radio and/or Pager
Pocket Change
Cellular Phone
Hard Hat
Safety Vest
Gloves
Coveralls or Lab Coat
Picture ID.
Emergency "Call Out" Phone List
Carrying Case

APPENDIX C

ACCIDENT/INCIDENT REPORTING FORMS

Rail Accident Incident Report Form - TRANS-30

Supervisory Employees' Accident Investigation Form - TRANS-172A

Equipment Damage Report Form - MAINT-18

Vehicle Accident and Incident Report Form - SAFE-3

Occupational Injury/Illness Investigation Report Form - SAFE-5