London Underground and Emergency Services



Rail Incident Procedures

PREFACE

This document has been produced by the London Underground Emergency Services Group (ESG) to provide advice, guidance and good practice to London Underground's (LU) Competent Qualified personnel and all emergency service personnel who will respond to any incident or emergency that occurs on LU infrastructure.

This is not a policy document, neither does it supersede nor replace the requirements of LU's Rule Books or the specific guidance that governs the attendance of the emergency services at an incident on the LU network.

I am grateful to Network Incident Response Manager Richie Vennard, who has led on the review of the first and subsequent versions of this document.

Tim Scott Chair – London Underground ESG

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1. INTRODUCTION

Where an incident occurs on the London Underground (LU) network which requires the attendance of the emergency services, there is a reasonable expectation that all responders will work together in order to preserve life and reduce harm.

The purpose of clear, simple procedures are to assist emergency services and LU personnel on site, to take action during an incident that will enable the achievement of a successful outcome.

This simplicity is of paramount importance in the early stages of any incident, when clear robust decisions and actions need to be taken with the minimum of delay in an often rapidly changing environment.

The Emergency Services Group, which is chaired by LU, creates a multi-agency forum consisting of LU and the emergency services namely London Ambulance (LAS), London Air Ambulance (LAA), London Fire Brigade (LFB) and British Transport Police (BTP) to ensure all key responders at accidents, incidents and emergencies that occur within LU's infrastructure work together in a consistent manner with high levels of safety and recover train services and station operation to normal working at the earliest opportunity.

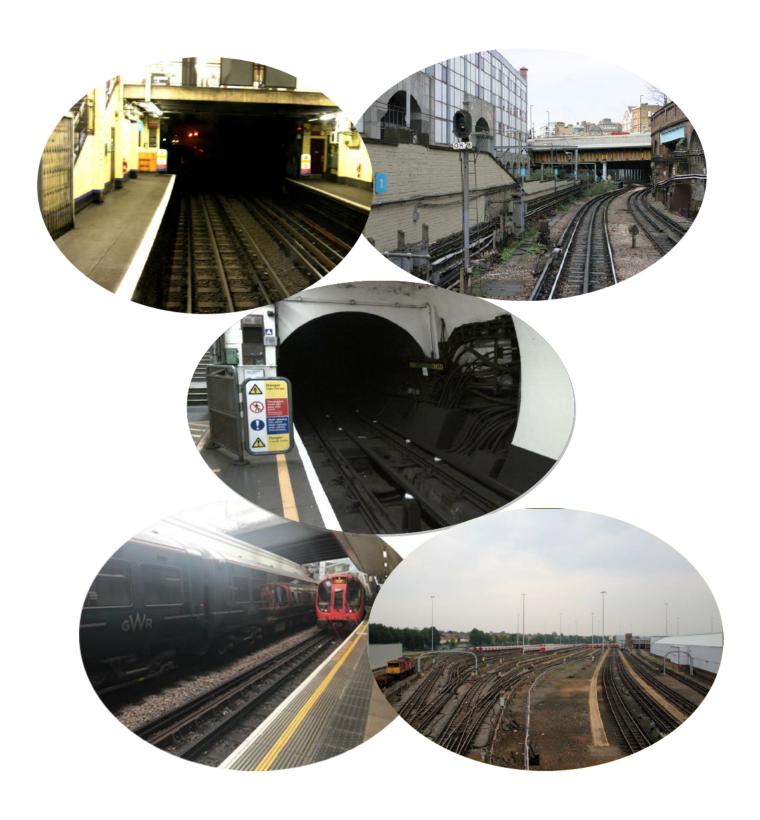
The procedures adopted by each of the emergency services in response to an incident on the LU railway network are understandably devoted to the role of the service concerned. The purpose of this document is to describe the agreed procedures and arrangements for the effective co-ordination of their joint efforts. In this way the overall response of the emergency services and LU will be greater than the sum of their individual efforts, to the benefit of the travelling public and users of the London Underground system and enabling the timely returning of the railway to normal operations

This document also reinforces the agreed policies and procedures for LU and emergency services personnel to competently resolve an incident that may or will require their attendance when on the LU network.

It is not intended as a comprehensive manual of railway operations. It should be used alongside guidelines from your own organisation. Although this document mentions other railways it is specifically aimed at LU's Competent Qualified Personnel and members of the emergency services attending an incident on LU infrastructure. For information regarding other rail operating companies, you should contact Network Rail or the Train Operating Company directly.

Glossary of terms

ВТР	British Transport Police
BTP MEDIC	British Transport Police Medic
CRID	Current Rail Indicator Device
DRM	Duty Reliability Manager
ERU	Emergency Response Unit
ES	Emergency Services
ESG	Emergency Services Group (London Underground)
FIM	Formal Incident Management
GLS	Go Look See process
HAZMAT	Hazardous Materials
JDM	Joint Decision Model
JESIP	Joint Emergency Services Interoperability Principles
LESLP	London Emergency Services Liaison Panel
LU	London Underground
LUCC	London Underground Control Centre
MOM	Mobile Operations Manager (Network Rail)
NHS	National Health Service
NIRM	Network Incident Response Manager
NIRT	Network Incident Response Team
PPE	Personal Protective Equipment
PIOP	Person III on Platform
PIOT	Person III on Train
PUT	Person Under Train
RIO	Rail Incident Officer (Network Rail)
RVP	Rendezvous Point
S00	Senior Operating Officer
SCD	Short Circuiting Device



NOTE: Until such time as confirmation is received it must be assumed that the traction current remains live and lines remain open to the passage of trains.

THE READER SHOULD REFER TO THEIR OWN SPECIFIC PROCEDURES AND GUIDELINES REGARDING WORKING ON THE RAILWAY

AN OVERVIEW OF LONDON UNDERGROUND INFRASTRUCTURE

Today, LU is a major business with over four million passenger journeys made every day, serving 275 stations and over 408 km of railway. As well as serving a large part of Greater London it also serves parts of the counties of Buckinghamshire, Hertfordshire and Essex.

Type of Area	Where found
Single Track Tube Tunnel One Single Track	Piccadilly, Northern, Central, Jubilee, Victoria, Bakerloo and Waterloo and City Lines
Double Track Tunnel Two tracks running parallel and trains can come from either direction	Metropolitan, District, Hammersmith & City and Circle Lines
Open Section Sections not in Tunnel areas.	All Lines except Victoria, Circle and Waterloo and City Lines Can run adjacent to or share NR Lines
Depots	All Lines

55% of the system runs on the surface with 45% of the system operating in single and double track tunnels.

The tracks are electrified with a four-rail DC (direct current) system with a combined voltage of 630volts. LU is responsible for the control of this traction current but NOT north of Queens Park (Bakerloo line), south of Putney Bridge on the Wimbledon branch and south of Turnham Green on the Richmond branch (District line).

On the sections of line shared with mainline trains, such as the District line from East Putney to Wimbledon and Gunnersbury to Richmond, and the Bakerloo line north of Queen's Park it is to be noted that LU staff have to abide by the rules and procedures set out by Network Rail which includes discharging traction current, accessing the track and stopping the movement of trains. (Refer to the 'Network Rail Emergency Services Rail Incident Protocol' for information.) In these circumstances, where track access is needed the presence of a licensed Mobile Operations Manager (MOM), appointed as a Rail Incident Officer (RIO) is required.

It is therefore imperative to identify exactly who the RAIL OPERATOR is with respect to traction current and track access.

This is especially important where Network Rail controlled lines run adjacent to LU infrastructure, such as between Barking and Upminster on the District line and between Finchley Road and Wembley Park on the Metropolitan/Jubilee lines. In areas of adjacent running, overhead electrical power lines may be present.

Information regarding the Rail Operator can be supplied by the LUCC or Local Manager

2. ROLES AND RESPONSIBILITIES AT A LONDON UNDERGROUND INCIDENT

The safety of its customers and staff is LU's highest priority which, alongside the emergency services, includes preserving life and minimising harm during certain incidents and occurrences on the railway.

The overall responsibility for rescue lies with the fire service.

The overall responsibility for the care and transportation of casualties to hospital lies with the ambulance service.

The police will support these operations by co-ordinating the emergency services, local authorities and other agencies.

London Underground

The primary areas of responsibility for LU are:

- The sharing of specialist information and intelligence including logistical information relating to railway infrastructure.
- Traction power and control
- Facilitate the safe working arrangements for the emergency services
- Specialist input to investigation
- Station operations
- Recovery of rail services that have been affected by the incident.

In order to discharge their responsibilities, LU has identified the following roles:

London Underground Control Centre (LUCC)

The LUCC is the London Underground Control Centre. The LUCC is based in London and is a 24-hour, 365 day service to the network – coordinating the response to incidents, collating and disseminating real time service information, and monitoring different equipment and alarms. This also includes any liaison or communication between LU and external agencies / emergency services. Within the LUCC are also the following internal departments that serve to support London Undergrounds' Operations: Power, Track Access, Asset Performance, Connect Radio Network Management Centre, and the BTP Force Control Room London.

London Underground Competent Qualified Person

London Underground has first responders which are either on site or dispatched to site in the event of an incident. These are referred to as a Competent Qualified Person. This is a term given to a person who has completed training in London Undergrounds Rules and Procedures and is competent to carry out such procedures as written and laid down in the London Undergrounds Rule Book. These persons will be wearing the appropriate tabard denoting their role within the incident and can assume that level of incident manager (Silver or Bronze). The types of staff recognised as being competent to perform this role are a Network Incident Response Manager (NIRM) and a Duty Reliability Manager (DRM). Other Grades of staff may be deployed who are also deemed competent and will identify themselves as that competent person.

Senior Operating Officer (SOO)

The SOO sits at the strategic level within the LUCC and has overall responsibility for all operating matters on the LU Network on behalf of the LU Managing Director.

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Network Incident Response Manager (NIRM/NIRT)

On LU the NIRM is the most senior 'responsible person' that is likely to attend an incident. These officials have a higher level of incident management awareness and extensive links into London Underground, and effectively act as the 'Silver' or LU Tactical Commander on scene and will lead the LU incident response. The NIRM works closely with the BTP who provide a Police Constable with the capability of blue light response should the situation dictate. The Police Medic and the NIRM work as a team and are referred to as the Network Incident Response Team (NIRT)

Emergency Response Unit (ERU)

LU has its own Emergency Response Units Located at Camden, Acton, Battersea and Stratford. They work to support the emergency services and LU Silver on site. Available on a 24-hour, 365 day basis they are trained and qualified to deal with incidents that require engineering and mechanical expertise on LU infrastructure working on live tracks, Track repairs and knowledge of LUs various train stock. They can also arrange protection for working in the trackside area. The ERU has a vehicle equipped with 'blue lights' based at Stratford and Camden with a BTP response driver able to provide a rapid response to incidents.

Police

The primary areas of police responsibility at an incident are:

- The saving of life together with the other emergency services
- The co-ordination of the emergency services, local authorities and other organisations acting in support at the scene of the incident;
- To secure, protect and preserve the scene and to control sightseers and traffic through the use of cordons;
- The investigation of the incident and obtaining and securing of evidence in conjunction with other investigative bodies where applicable
- The collection and distribution of casualty information
- The identification of the dead on behalf of Her Majesty's (HM) Coroner
- The prevention of crime
- Family liaison
- Short-term measures to restore normality after all necessary actions have been taken

Fire Brigade

The primary areas of fire service responsibility at an incident are:

- Life-saving through search and rescue;
- Fire fighting and fire prevention;
- Rendering humanitarian services;
- Detection, identification, monitoring and management of hazardous materials and Protecting the environment;
- Provision of qualified scientific advice in relation to HAZMAT incidents via their Scientific advisors;
- Salvage and damage control;
- Safety management within the inner cordon;
- To maintain emergency service;

Where more complex incidents occur, responsibility for site safety may transfer to the fire service. In the event of the fire service declaring the environment unsafe, all agencies will defer to the protection of the fire service.

Ambulance Service

The primary areas of responsibility for the ambulance service at an incident may be summarised as:

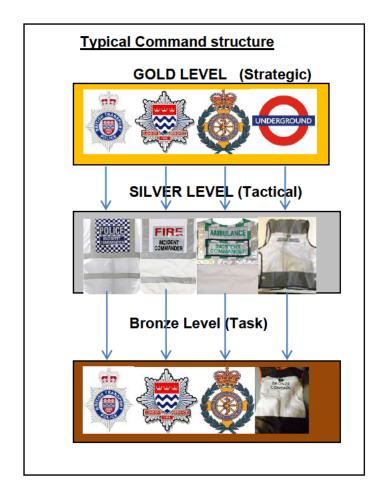
- To save life together with the other emergency services
- To provide treatment, stabilisation and care of those injured at the scene
- To provide appropriate transport, medical staff, equipment and resources
- To provide a focal point at the incident for all National Health Service (NHS) and other medical resources. This includes services such as air ambulances or medical teams.
- To maintain emergency cover throughout the ambulance service area and return to a state of normality at the earliest time.

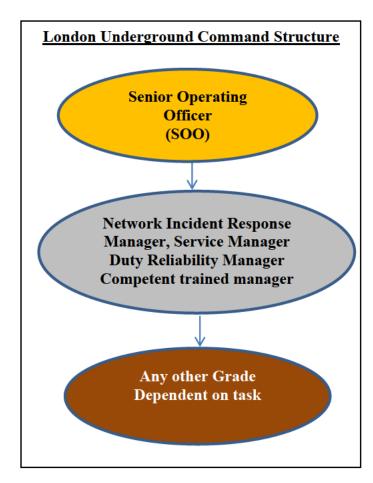
London Underground

Each Line has a hierarchy within the context of managing operations. The Service Manager deals with the day to day running of the Line and directs resources to deal with any incident that occurs.

Where a more formal management of an incident is required the Service Manager will be appointed as Silver Control by the SOO in the first instance and will control the incident until they are able to hand over to an operationally competent grade on site who will then assume the role of Tactical Silver on site. This person may be a NIRM or DRM or competent trained manager.

In any event, access to the track and or traction power arrangements remains under the authority of the Line's Service Controller except in extreme emergency situations where other methods can be safely adopted.





London Underground works within rules and procedures specific to the industry which covers all aspects of its operational business. When incidents occur we revert to Rule Book 2 - Managing incidents. This rule book details the management responsibility and organisation for all incidents on the railway both network wide and local.

Despite each incident being unique, it is important to understand the types of incident that are likely to occur on the London underground and how Rule book 2 is applied.

London Underground Category 1 Type incidents

These incidents occur with a minimum of warning. Examples of this type of incident could include terrorist attacks, and rail incidents. Specific examples of such incidents that can occur within LU are:

- Radio system failure
- Major power failure
- Major flooding incident
- Confirmed terrorist attack
- Fire
- A code red message (all trains stop)
- An evacuation of the Underground network (as opposed to a station)
- A person under a train.

The emergency services refer to these as Sudden Impact Incidents. They are likely to cause the following and will require a more Formal Incident Management procedure to be implemented:-

- Trains to be stalled for more than 30 minutes;
- Full or partial line suspension;
- Serious infrastructure damage;
- Serious injury or loss;
- More than one line or multiple locations to be affected.

London Underground Category 2 Type Incidents

These incidents develop from a 'steady state' or 'business as usual', and may become an emergency or major incident over a period of time.

- The incident is limited to one line or location
- Trains are likely to be stalled in tunnels for less than 30 minutes.

The emergency services refer to these as Rising Tide Incidents. These incidents can be managed locally but could have the potential to escalate.

London Underground Category 3 Type Incidents

These incidents can be dealt with locally and are usually considered to be day to day issues

Stages of an Incident

Most incidents can be considered to have four stages:

1. The Initial Response

During the initial stage LU will request the attendance of those services whose expertise is required giving details as necessary of the circumstances and access locations. The emergency services will dispatch the required response to the incident scene. Upon arrival the emergency services will be met by a member of LU staff at the Station RVP. This member of staff will also identify to the emergency services whom the LU Competent Qualified Person on site is.

All persons attending an incident on LU should be aware of who is the decision maker is for each agency.

LU will implement a Formal Incident Management (FIM) process for all Category 1 Type Incidents in order to manage their responsibility. Competent Qualified Persons are dispatched to site to work with internal and external agencies including the emergency services in order to restore normal operations to LU.

2. The Consolidation Phase

The principal purpose is to ensure all key responders at accidents, incidents and emergencies that occur within LU's infrastructure work together in a consistent manner and achieve high levels of safety and recover services to normal working.

This is the time in the incident that Command and Control is put in place. A 'Multi-Agency Meeting' should convene at the earliest opportunity and a plan for resolution formulated, agreed and implemented leading to the timely and safe recovery of the situation and ultimately the return to normal service operations for LU with consideration and awareness of any consequences from it i.e.: Stalled trains, closure of stations and impact on other services

3. The Recovery Phase

The recovery phase for incidents on LU will require working with the emergency services and often depend on the type of incident an agreed plan for removing the element that is preventing the return to normal service.

Once the critical tasks have been completed the recovery phase can be identified. The lead person of each agency should review the agreed plans and look at allowing the movement of trains at the earliest opportunity. This may mean the movement of the casualty to an agreed place to allow the partial opening of a station and/or the non-stopping or passage through of trains at slow speed. This is the time when LU will put in place a recovery plan for the return to normal service.

All agencies will continually assess their resources and withdraw any personnel where there is no further requirement for them to participate in the incident. This will provide a faster return to a state of normal operations for LU.

All agencies are responsible for their staff and should ensure that should track be accessed their Lead Person will inform the Competent Qualified Person that all their personnel are accounted for clear of the track area and are in a place of safety.

All agencies must remove all equipment, refuse, and clinical waste from the scene at the earliest opportunity and ensure the environment has been restored.

It will remain good practice for LU and the emergency services to hold a Post Incident 'Hot Debrief' to identify positive and negative aspects that can be discussed openly and honestly to capture best practices and learning points for each agency. If agencies are departing at different times from scene, a brief interaction with the Competent Qualified Person for LU should take place.

The Competent Qualified Person will facilitate the restoration of Traction Current Supplies to allow the Lines Service Control Teams to restore train services and to coordinate station operations to allow for the opening of stations.

4. The Restoration of Normality.

During this phase LU will have returned to 'normality' which means running a full train service and the station is open. The emergency services may have completed all critical activities but may be still on site. They should have handed back the railway to the LU Competent Qualified Person for normal services to resume, and should ensure any subsequent activity is conducted with the minimum of disruption to LU operations.



Confirming power off at rail incidents

At incidents requiring the attendance of the emergency services where a casualty needs to be rescued from the track, the Fire Service will take the lead in managing the safety of responders. However, they will rely on LU staff to advise them when power has been discharged and trains stopped.

The following communication has been circulated to all operational LFB staff to confirm the arrangements that should be put into place to confirm that traction current has been discharged.

It is recognised that lifesaving actions can be delayed when attending incidents on the rail network (above and below ground), whilst the LFB Incident Commander (IC) awaits confirmation from their control of power isolated and trains stopped. To prevent this from happening this message is to confirm the method agreed that the IC is to take to confirm power off and trains stopped.

It must be clearly understood that power isolation and train stoppages will only be requested when it is considered essential in order to protect life and property. Incident commanders need to be aware that the isolation of power supplies and the stopping of trains, other than at station platforms, can have serious implications away from the immediate scene of operations including:

- Passengers alighting from trains that have stopped outside stations and walking along tracks which may still be in use or live.
- Overcrowding of stations and platforms.
- Physical and mental distress of passengers on trains in tunnels.
- Widespread disruption to train services.

There are two accepted methods of confirming power off and all trains stopped:

- Where a "Responsible Person" is present at scene such as an LUL Bronze or Silver commander, Station Manager, NIRM or Network Rail RIO, a request can be made directly to that person. A 'priority' message must then be sent to Brigade Control giving the name and role of the person and time power is confirmed off. As soon as the competent person confirms power off and all trains stopped, crews can go trackside and not wait for the message to be sent to control as this could delay lifesaving actions.
- 2) If a competent person isn't available the IC must send a priority message to Brigade Control requesting power to be isolated between two known locations and trains stopped.

3. INTEROPERABILITY - PRINCIPLES FOR JOINT WORKING

At the scene of any incident, emergency services and other agencies should work closely together.

It is good practice at an incident to adopt 5 key principles for joint working which can be applied by responders when they are determining an appropriate course of action in the response to and co-ordination of an incident.

The 5 principles are:

1. Co-location

A multi-agency meeting should be established at the earliest opportunity and be the primary focal point where the LEAD PERSON of each agency should assemble. The meeting should work to the principles contained within the Joint Decision Model (JDM).

The JDM provides a structure for multi-agency meetings that should not be seen as restrictive, but as a tool to ensure all agencies contribute to an agreed plan of action.



Considered best places for a Multi Agency Meeting are:-

- Person under a Train (PUT) = Entrance to Platform
- Person ill on a Train (PIOT) = Platform
- Person ill on a Platform (PIOP) = Platform
- Trains stopped in Tunnels (Stalled Trains) = Station Control Room or Platform
- Fire Alarm/Alert = Station Control Room
- Power Failure = Station Control Room

However if these locations are deemed unsuitable then an alternative location should be identified and agreed by the leads of each agency.

2. Communication

Meaningful communication between the emergency services and London Underground should be built upon agreed procedures to share the required information and the use of commonly understood terminology rather than service specific terminology or jargon where this may impede understanding.

The relevant Emergency Service Control Centre will endeavour to inform the LUCC of any emergency service attendance to the railway which is likely to have an impact on normal operations. LUCC will immediately advise the relevant Emergency Service Control Centres of all London Underground incidents requiring their expertise, giving details as necessary of the circumstances and access locations. All control centres will keep each other updated of all relevant information and messages coming from the incident prior to their arrival.

LU will despatch a Competent Qualified Person to all incidents where the emergency services are attending and the prime responsibility of this person will be the lead railway representative, co-ordinating the rail industry input and providing site specific information as required. In the event of no LU Competent Qualified Person present in an emergency situation the emergency services on scene will contact their own Emergency Service Control Centre and/or LUCC for further guidance.

3. Co-ordination

Co-ordination involves the integration of the priorities, resources, decision making and response activities of each emergency service in order to avoid potential conflicts, prevent duplication of effort, minimise risk and promote successful outcomes.

Effective co-ordination generally requires one service to act in a lead capacity; this will frequently be the Police. In certain circumstances, other agencies including the LU Competent Qualified Person may be more appropriate, depending upon the nature of the emergency, the phase of the response and the capabilities required.

4. Joint understanding of risk

The joint understanding of risk is the process by which the leads of all emergency services and the LU Competent Qualified Person work towards a common understanding of threats, hazards and the likelihood of them being realised, in order to inform decisions on deployments and risk control measures that are required.

This will include ensuring the safety of responders and mitigating the impact of risks to members of the public, infrastructure and the environment and ultimately our Service.

The expectation from the emergency services is that LU will provide a safe working environment in order for them to conduct their critical activities. Ideally this should be put in place prior to their arrival. If not it must be the first consideration for all responders. Initial site safety with respect to Traction Current will be provided by the LU Competent Qualified Person on site.

When working on the railway environment the emergency services expect focus on the following priorities:-

- Traction current supplies are turned off
- All train movements have been stopped
- Short Circuiting Device's (SCD's) have been placed on the track (if the incident involves a train)

By ensuring these priorities have been completed, the emergency services will have greater confidence and reassurance that safe, rapid access can be achieved.

Within any multi-agency incident there should be ongoing identification and assessment of hazards and risks specific to the incident location. This must be communicated collectively.

5. Shared situational awareness

Shared situational awareness is a common understanding of the circumstances and immediate consequences of the emergency, together with an appreciation of the available capabilities and emergency services' priorities.

Shared situational awareness relates not only to a common understanding between incident commanders, but also between control rooms and all tiers of the command structure.

Methane Process

The METHANE critical message format should be used to pass information, to establish initial shared situational awareness. Subsequent METHANE reports should be resubmitted regularly but must be jointly agreed between the lead persons of the emergency services and the LU Competent Qualified Person.

M	Major Incident Declared (if appropriate)
E	Exact location
Т	Type of incident
Н	Hazards present and potential
Α	Access and egress
N	Number, type, severity of casualties
E	Emergency services present and required

Post Incident Procedures

Following the resolution of the incident it is best practice for each agency to be involved in an onsite 'Hot Debrief'. This is where each agency is able to identify positive and negative aspects that can be discussed openly and honestly to capture best practices for the future and learning points for each agency.

These aspects can further be exploited through LU's Star Chamber and FIR incident review. This is where participants of the incident are invited back to the site to review the incident and identify any improvements or best practice. Hot debriefs are fed back to the ESG. This group is the conduit for all LU and emergency service feedback and has been established to maximise inputs and outputs that arise from these incidents. This may take place by means of a formal review. Following on from these post incident procedures identified practices can be fed into processes and standards through LU's Skills and Development Department and HSE Rule Book Team.



APPENDIX A - London Underground Emergency Services Group (ESG)

The principal purpose of this group is to provide a multi-agency forum consisting of London Underground (LU) and the Emergency Services namely (London Ambulance (LAS), London Fire Brigade (LFB) and British Transport Police (BTP) to ensure all key responders at accidents, incidents and emergencies that occur within London Undergrounds infrastructure, work together in a consistent manner and achieve high levels of safety and recover services to normal working.

This will be achieved by sharing and discussing information from incidents and to learn from experience to develop and administer agreed protocols and procedures for the management of an incident of the London Underground.

The group works to the following objectives:

- To identify, define, clarify, develop and publish the agreed processes, rules and Standards for incident management on LU infrastructure;
- To identify and clarify the roles and responsibilities of LU and emergency service personnel at an incident;
- To ensure that LU and emergency service personnel establish a safe system of work at any incident to minimise the risk for LU and emergency service personnel and members of the public;
- To ensure as far as reasonably practicable there is the establishment of effective communication with LU and the emergency services during an incident;
- To ensure as far as reasonably practicable that the lead persons at an incident have the ability to establish the type of incident, formulate, agree, implement and evaluate an appropriate multi-agency response plan in order to achieve a successful operational outcome.
- To identify issues from any incident involving interoperability between LU and the emergency services and address them;
- To identify possible interoperability work streams relevant to BTP and the emergency services, and progress them to mutual agreement.
- To enhance the development of all LU and emergency services operational staff by ensuring that all training is consistent with the agreed protocols and processes for pre-planned events, spontaneous incidents, rising tide incidents, and contingency plans;

Type of Incidents may be reviewed by the ESG

Any incident that occurs within the jurisdiction of the London Underground network whereby all or some of the emergency services have participated in the incident and/or interacted with London Underground personnel could be reviewed.

There are no defined criteria as to what issues arising from these incidents should be reviewed. In its broadest sense, all incidents will provide an opportunity to improve performance or consolidate good working practices.

The outcomes will be used to reinforce the requisite knowledge and skills for LU and emergency service personnel to competently resolve an incident that may or will require the attendance of the emergency services on the LU network.

