



# Safety Improvement Plan

2006/2007

**London Underground Limited**



## Introduction

London Underground (LU) provides a key service for the capital. Each weekday over 3 million passenger journeys are made on the network. The operation, maintenance and improvement of the network presents a variety of hazards to customers and staff – each of which require suitable controls to ensure that risks are as low as is reasonably practicable. The efforts made by LU to control safety risk on our network ensure that London Underground is one of the safest forms of travel for customers and a safe workplace for our staff.

In addition to operational safety considerations, the security of the London Underground network is vital. LU operates an open system, and has already been targeted for terrorist attack. It is in this context that LU is striving to further reduce the risk and impact of such attacks. It is also essential that customers and staff do not feel at risk from more ordinary forms of crime whilst on the Underground network.

LU is committed to continuous improvement in safety performance. The Safety Improvement Plan (SIP) summarises our short and long term plans to improve safety and security on the LU network for customers, employees and suppliers. The SIP forms part of our Railway Safety Case which is updated to reflect changes to the SIP.

The SIPs for LU, Metronet and Tubelines have been drawn up after joint consultation. This ensures coherent improvement programmes across all four companies so that priority areas are comprehensively addressed.

## Review of Safety Performance in 2005/06

Safety performance during 2005/6 continued to show improvement and consolidation of the reductions in incidents and other improving trends from 2004/5. This performance is summarised below.

Although there were two customer accidental fatalities during 2005/6, this is the lowest number of accidental customer fatalities for seven years and represents approximately one fatality per 485 million customer journeys. One fatality was as a result of a person falling against a moving train and on to the track; the other was as a result of a person falling down stairs whilst hurrying for a train. (Deaths due to the terrorist attacks of 7 July, suicide, suspected suicide, medical causes and crime are excluded from these figures.)

The customer major injury rate remains at approximately 1 major injury per 8 million customer journeys, which is the same as the previous year. 65% of these injuries involved falls on or around stairs or escalators, which is an improvement on the previous year. The poster campaign to influence customer behaviour in avoiding risks in these areas continues and may have contributed to the continuing downward trend in the number of customer fatalities.

There were 24 derailments during 2005/6, the same number as 2004/5. However, there were no derailments of trains in passenger service. All these derailments involved either engineering trains or empty passenger trains and the majority were due to either the poor condition of track in depots or to errors by shunting staff.

LU has comprehensive train protection systems in place to ensure that the residual safety risks from Signals Passed At Danger (SPADs) are very low. Therefore the primary impact of SPADs is on train service reliability. During 2005/6 work continued to reduce SPADs and, as a result, the number of SPADs was reduced again, by

17.5% (775 in 2005/6 compared with 939 in 2004/5). SPADs due to train operator error were reduced by 14% (from 686 to 588), building on the reduction achieved during 2004/5; whilst those due to asset failures also significantly decreased by 26% (from 252 to 187).

During 2005/6 the number of confirmed fires on the LU network reduced by 17% to the lowest level ever recorded. The continued downward trend in the number of fires is due to the improved litter picking regime and other measures introduced by the Infracos.

Once again, there were no fatalities to any employee or contractor. It has now been five years since there was such a fatality. The number of employee major injuries increased for the second year to 10 during 2005/6 compared with 7 major injuries the previous year. Although the number of employee lost time injuries increased slightly compared to last year, the overall trend continues to be significantly lower than previous years. This indicates that benefits continue to be gained from the ongoing programmes, described below, aimed at reducing the effects of workplace violence, and through the ongoing work of the trauma support groups. A high proportion (57%) of these incidents continue to be from assaults on staff and from trauma associated with incidents such as suicides and near misses, which highlights the need for the programmes in these areas to continue.

The number of assaults on staff reduced by 7.5% during 2005/6. A contributory factor to this was the enhanced police presence following the 7<sup>th</sup> July attacks. The numbers of physical incidents and verbal incidents of workplace violence both reduced during 2005/6 by 4% and 13% respectively, while the number of threats received by staff increased slightly (2%). This is only the third occasion over the last 10 years where there has been a fall in the overall number of reported incidents of workplace violence, and it is the largest percentage fall during this period.

Her Majesty's Railway Inspectorate (HMRI) served two enforcement notices on LU during 2005/6. This compares with two notices served in each of the last two years. A Prohibition Notice was served prohibiting the self dispatch of trains by train operators on the westbound, fast, platform (2) at Acton Town station during the hours of darkness. An Improvement Notice was issued in relation to an incident at Kings Cross station where a member of the emergency services received an electric shock whilst on the track. The Notice requires LU to take measures to prevent danger to persons working on the track and in particular to the inadvertent charging of traction current rails.

LU delivered all the safety improvement programmes scheduled for 2005/6. These have contributed to the improved safety performance discussed above and will continue to contribute to the safety performance throughout 2006/7 and beyond as described below.

## Safety Improvement Plan 2006/07

### Overview

One of LU's six strategic business objectives is **to provide a safe and secure service for customers and a safe and secure environment for all those who work on the Tube.**

To ensure this objective continues to be achieved, this Plan aims to:

- Reduce priority residual safety risks as low as reasonably practicable
- Ensure security arrangements are strengthened as far as reasonably practicable
- Continue to streamline health and safety standards and assurance arrangements
- Further enhance the competencies of LU managers and staff to ensure the necessary standards are consistently achieved.

The programmes to achieve the above are described in the pages which follow. It is important to emphasise, however, that these programmes are supported by and integrated with other programmes designed to achieve LU's five other strategic business objectives which are not described in this document.

## Safety Improvement Programme

### Sub-Objective One:

#### Reduce priority residual safety risks as low as reasonably practicable

##### Purpose:

LU is committed to ensuring that our existing high standard of safety is not only maintained but also enhanced where this is reasonably practicable.

##### Analysis:

Our extensive safety risk assessments indicate that our priorities need to continue to be focused on further:

- reducing the risks of derailments
- reducing the occurrence of signals passed at danger (SPADs)
- Improving the effectiveness and quality of our risk assessment models and related processes, which inform the effectiveness of risk control measures
- continue to minimise the impacts of workplace violence on staff

In addition, to ensure we continue to provide a safe environment for all, we will review the responses received by the Transport for London, (TfL) Disability Equality Scheme consultation. We will also continue to benchmark ourselves against other metros as part of our membership of the international Community of Metros organisation (CoMet) and will continue to develop comparative indices of accident precursors.

The above approach will reduce actual risk levels and ensure customers continue to perceive safety risk to be low.

## **Programme Summaries:**

### **Derailment Risk Reduction**

Extensive improvement measures were completed across the network in 2005/6 to sustain the significant downward trend in the number of in-service derailments, as was a two year programme to identify and regularise all existing track non-compliances with our standards. Further improvement measures are also in progress or are planned, but these are covered in Metronet's and Tube Lines' plans.

### **Signals Passed At Danger (SPADS)**

We already have comprehensive train protection systems in place to ensure that the residual safety risks from SPADs are kept very low, but SPADs have a significant impact on train service reliability. A Corporate SPAD Reduction Programme was implemented during 2005/06 to build on and extend existing line level programmes. The longer term actions developed as part of this programme will continue to be implemented in 2006/07.

### **Risk Assessment Model and Processes**

Our major accident Quantified Risk Assessment (QRA) models help us understand our risk profile and identify key contributors to that risk. During 2006/7 as part of a rolling programme of review, the development of these models will continue. As part of this work, a specific aim is to remove any inherent pessimism from the models. A long-term review programme will be developed to align with and take into account the Line Upgrades and other PPP and PFI significant deliverables. Measures to improve the use of the QRA models by our managers are outlined in Sub-Objective 4.

### **Disability Equality Scheme**

Responses to TfL's consultation on its Disability Equality Scheme will be analysed to identify any gaps in our current or planned safety provisions. If necessary, new workstreams will be defined to address any gaps identified from the consultation.

### **Comparative Indices of Accident Precursors**

We are a member of the international Community of Metros organisation (CoMet) which benchmarks Metro systems against each other. LU leads a programme to develop comparative indices of accident precursors, so that comparisons of safety performance and safety management can be made and best practice adopted. This will continue and, where best practices from other Metros are identified, new work streams will be defined to implement such practices.

### **Workplace Violence Reduction**

The programme, which started several years ago, continues and includes further development of the British Transport Police (BTP) database and establishment of a joint LU/BTP Workplace Violence Reduction Unit. Work during 2006/7 will continue to focus on managers providing better and earlier support to staff who suffer assault, and refocusing operational managers' performance goals to encourage the development of a more supportive culture. This will be underpinned by a review of the effectiveness of the measures implemented to date and development of the programme to further enhance controls.

## Sub-Objective Two

### Ensure security arrangements are strengthened as far as reasonably practicable

#### Purpose

To further enhance the security of the Underground where practicable.

#### Analysis

Our priorities need to be focused on considering measures to further:

- reduce the risk of terror attacks
- enhance protective security and address identified vulnerabilities of critical LU assets and infrastructure by improving physical security
- reduce the impact of an incident, should it take place
- increase the perception of a safe and secure environment for customers staff, and suppliers

This approach will reduce actual risk levels, but it is also important that customers perceive safety and security risks to be low. In this respect, we will also implement customer facing security improvements e.g. more visible staff and police, safer waiting areas and more CCTV.

#### Programme summaries:

##### Personal Security

Significant sums are being spent on safety and security improvements over the next 5 years, in addition to the very large investments being delivered through the PPP. We will continue to address security risks through a programme to upgrade equipment on both trains and stations (e.g. CCTV, help points/alarms) to a common high standard. This will include significant enhancements on all stations by 2012 and on trains as new fleets are introduced or existing fleets are refurbished.

New systems will allow a new, more flexible command and control strategy. More centralised control, through linked station control rooms, will enable active management of the operational environment, increasing staff mobility and visibility. An improved risk based staffing model, which also matches staffing levels to customer capacity/volume and station complexity is being introduced as the ticket retailing strategy is progressively implemented.

The Tube is an extremely low crime environment and is one of the most managed public spaces in London. The visible staff and police presence increases the opportunity for crime detection, is a strong deterrent and together with focussed communications reassures customers about the real, as opposed to perceived, risks of crime. Through further training and internal communication, we will achieve an increase in staff vigilance that will help further reduce the opportunity for crime and increase the likelihood of prosecution.

The number of British Transport Police (BTP) on the network over the last few years has significantly increased and locally aligned 'reassurance' policing has been introduced. We will continue to ensure that our and the BTP's resources are

optimally deployed and supported with the right facilities and skills in LU's own workforce.

## **Resilience**

During the IRA terrorist campaign of the early 90s, London Underground developed considerable skills at handling both real and threatened terrorist activities, and that preparation and training allowed us to respond effectively to the July 2005 terror attacks. However, these latest attacks, and the continued risk of similar incidents, represent a further challenge to us. We will continue work to address the threat through improved deterrence, detection, and emergency response arrangements. This includes working with the Transport Security Directorate (TRANSEC) to facilitate trials of monitoring equipment at stations, a review of emergency equipment and strengthening security at key sites. Our resilience programme has been strengthened to identify and deliver all reasonably practicable improvements. This work will continue to be done in close liaison with the Police, TRANSEC and the security services.

## **Sub-Objective Three**

### **Continue to streamline health and safety standards and assurance arrangements**

#### **Purpose:**

To continue to improve compliance with legislation and to achieve ever improving safety performance through the rationalisation and simplification of our standards, processes and associated documentation to make understanding and compliance easier and more efficient to achieve.

#### **Analysis:**

Over the last year, we have made progress on simplifying our standards and our safety and technical assurance and inspection processes. In the coming year we will continue to streamline our working procedures and related auditing processes to make them easier to understand and use. Specifically, we will implement a more efficient safety and technical audit and inspection regime for LU and our PPP and PFI suppliers; continue the rationalisation of the Working Reference Manual; and ensure we will comply with the changes in railway regulation being implemented by HSE and ORR in 2006/07.

#### **Programme Summaries:**

##### **Standards Development**

Implementation of the new suite of category 1 standards was completed in 2005/6. As part of this work, a programme to rationalise fire safety requirements for lifts for carrying mobility-impaired people was undertaken. Work was started on upgrading all station emergency plans to be emergency scenario specific. This will continue in 2006/7 and will contribute both to safety and resilience improvement.

## **Assurance Regime Rationalisation**

During 2005/6, analysis was completed on the existing management arrangements for safety and technical audit and inspection by LU – and interfaces with supplier companies. Relevant Directors decided that the existing separate safety and technical audit functions should be centralised and inspection activities should be better coordinated. This change will be implemented in 2006/7 and will ensure a consistently higher quality of audit and inspection to better enable us to assess our own safety performance and that of supplier companies – and so drive continuous improvement.

Additional analysis was also completed on the existing processes through which we gain assurance that any technical and operational safety risks attendant on the delivery of project and maintenance works by supplier companies has been properly considered - and safety risk adequately mitigated. Further in depth analysis was completed in 2005/6 by the Engineering Directorate to identify any impediments and opportunities to ensure a risk based approach to the technical assurance process. The consolidated results of both these workstreams have driven the development of an extensive improvement programme to rationalise and simplify our assurance processes, which will continue throughout 2006/7. Work in future years will focus on ensuring that these streamlined processes are more effectively and efficiently supported by management information system enhancements.

## **Working Reference Manual Rationalisation**

This programme extends into 2007/8, and aims to considerably reduce the volume of working procedures and make them far easier to understand and comply with. The work is being done with input from a representative sample of those staff that have to apply the procedures on the railway every day. The work is and will continue to identify and resolve any problems that exist with the practicality of applying the procedures, difficulties in interpretation of the procedures and problems with access to the documentation.

The programme also takes account of new technology being introduced as a result of the investment programme, such as the new 'Connect' radio system being installed across the network, so that work procedures are adjusted to reap the safety and other benefits such investments are designed to achieve.

Many of the work procedures are safety critical, so the programme includes a rigorous risk assessment and change control process. This approach ensures that the risks of errors occurring in the drafting of new procedures, during the associated staff briefings or training and as part of the progressive implementation programme are minimised.

## **Compliance with New/Revised Health and Safety Regulations**

Changes to railway specific safety regulations come into force in 2006/7. During 2005/6, we have worked to ensure we can meet all the new requirements when they come into force. While some further work, primarily around modifying our Safety Case, is needed in 2006/7, no significant issues are expected in achieving compliance.

## **Sub-Objective Four**

**Further enhance the competencies of LU managers and staff to ensure the necessary standards are consistently achieved.**

### **Purpose:**

This is to ensure that managers and staff are clear about their health and safety management responsibilities and have the necessary skills, knowledge and resources to effectively discharge them.

### **Analysis:**

A considerable amount of work on this subject has been undertaken over the past six years, and a review of the outcomes shows considerable progress has been made. The Work will now continue in the following areas:

- improved accessibility to and usability of the major accident risk assessment models to aid better safety decision making
- enhancement of incident management skills and processes
- better and more easily accessible health and safety topic briefing materials for use by managers and their staff
- completion of the competence assurance regime for all LU operational staff, by extending coverage to include service control staff.
- continuing development of our competence assurance regime for operational personnel by moving towards a risk-based system for assessing competence of safety critical workers.

## **Programme Summaries**

### **Decision Making and Better Use of the Risk Assessment Models**

During 2005/6, a review was initiated into how LU and the Infracos use major accident quantified risk assessment (QRA) models. Work was completed to develop a format for the QRA network and line reports, which more readily meets the needs of our managers. A communications plan was developed to improve visibility of the models with greater involvement of operational managers in future QRA reviews. This plan is to be implemented during 2006/7.

### **Enhancement of Incident Management Skills and Processes**

Investigations of a variety of different incidents over several years have identified weaknesses in the way some incidents are managed in what is often a challenging environment. In 2005/6 we established a separate incident investigation team to cascade best practice skills to the investigation of serious incidents. In 2006/7 a review and analysis of existing procedures for investigations into less serious incidents will be undertaken and an improvement programme developed. Implementation of this programme will start in 2006/7 and continue to 2009/10.

### **Development of Structured Health, Safety and Environment Topic Briefings**

To ensure our managers can easily keep their knowledge up to date and can discuss issues with their staff in a well informed way, a series of short topic briefings on all relevant subjects were developed in 2005/6. Development and delivery of these will be continued throughout 2006/7.

### **Competence Assurance for Service Control Staff**

The organisational arrangements for our service control staff are being completely restructured and has included the development and introduction of competence assurance for these staff during 2005/6. This will continue to completion in 2006/7 and will complete the introduction of a risk-based competence management system regime for all our operational staff.

### **Risk Based Competence Assurance and Operational Learning and Training System for Safety Critical Workers**

As a result of regulatory changes, a review of our Competence Assurance and Operational Training arrangements was completed during 2005/6. A programme will be produced to develop a risk-based Competence Management System (CMS) for assessing the competence of safety critical workers and to deliver the supporting operational training/learning requirements that aligns with the CMS processes. Development and delivery of this will start in 2006/7 and continue over the next few years. Implementation of this strategy will result in integration of Operational Learning and training into the business and ensure these programmes are adaptable to take account of changes arising from line upgrade implementation.

## Appendix A

### Key Programme Milestones and Management Responsibilities

#### Sub-Objective 1: Reduce priority residual safety and security risks as low as reasonably practicable

##### Programme 1: Derailment Risk Reduction

Milestone	Date	Lead Manager
Oversight of the Metronet and Tubelines track improvement programmes	30 <sup>th</sup> June 2006	Trevor Jipson, Permanent Way Engineer

##### Programme 2: Signals Passed At Danger (SPADs)

Milestone	Date	Lead Manager
SPAD Investigations, training designed and approved	9 <sup>th</sup> October 2006	Paul Coote, Trains Performance Manager, Circle & Hammersmith
Signal Sighting Improvements – BCV	30 <sup>th</sup> October 2009	Richard Smith, Operational Services Manager - BCV
Signal sighting Improvements – SSR	26 <sup>th</sup> October 2007	Paul Doyle, Operational Services Manager - SSR
Signal Sighting Improvements – JNP	16 <sup>th</sup> April 2007	Sue Lofthouse, Operational Services Manager - JNP
Process Assessment and Improvement	19 <sup>th</sup> May 2006	Trudy Morgan, SPAD Programme Manager.
Change Management Process Modelling	22 <sup>nd</sup> December 2006	Trudy Morgan, SPAD Programme Manager.

##### Programme 3: Risk Assessment Model and Processes

Milestone	Date	Lead Manager
Complete the review of the QRA Model for Derailment	31 December 2006	David Burton, General Manager SQE Systems and Assurance
Complete the review of the QRA Model for Collision between Trains	31 December 2006	David Burton, General Manager SQE Systems and Assurance
Complete the review of the QRA Model for Collision with Object	31 December 2006	David Burton, General Manager SQE Systems and Assurance
Apply the revised Passenger Loadings to the QRA models	31 August 2006	David Burton, General Manager SQE Systems and Assurance
Incorporate 'CONNECT' deliverables into QRA models	Within 6 months of project completion.	David Burton, General Manager SQE Systems and Assurance
Develop long term programme for QRA model improvements via Risk Assessment Forum and validated via Safety Standards Partnership Group.	31 <sup>st</sup> March 2007	David Burton, General Manager SQE Systems and Assurance

Programme 4: Disability Equality Scheme

<b>Milestone</b>	<b>Date</b>	<b>Lead Manager</b>
Analyse responses to TfL Disability Equality Scheme consultation with respect to Safety and Security	30 <sup>th</sup> June 2006	Jill Collis, General Manager SQE Operations
Undertake a gap analysis of respondents safety and security requirements against LU current and planned provisions	30 <sup>th</sup> September 2006	Jill Collis, General Manager SQE Operations
Solutions identified and business case(s) developed to address identified gaps.	31 December 2006	Jill Collis, General Manager SQE Operations
Safety Improvement Programme updated to implement selected solutions	31 March 2007	Jill Collis, General Manager SQE Operations

Programme 5: Comparative Indices of Accident Precursors

<b>Milestone</b>	<b>Date</b>	<b>Lead Manager</b>
Identify new work streams to benchmark LU and other metros	31 <sup>st</sup> January 2007	Jill Collis, General Manager SQE Operations
Provide LU comparison data to CoMet	28 <sup>th</sup> May 2006.	Jill Collis, General Manager SQE Operations
Review LU's performance against CoMet report and identify areas to follow up for adoption of best practice	30 <sup>th</sup> November 2006	Jill Collis, General Manager SQE Operations

Programme 6: Workplace Violence Reduction

<b>Milestone</b>	<b>Date</b>	<b>Lead Manager</b>
Improving support to staff who suffer assault, including setting up of a joint LU/BTP workplace violence unit and refocusing operational managers' performance goals to encourage the development of a more supportive culture.	31 <sup>st</sup> March 2007	Mike Maynard, Head of Operational Support
Review the effectiveness of the measures implemented to date and develop the workplace violence mitigation programme to further enhance these controls.	31 <sup>st</sup> March 2007	Mike Maynard, Head of Operational Support

**Sub-Objective 2: Ensure security arrangements are strengthened as far as reasonably practicable**

The programmes for delivering this sub-objective are not published in the public domain. However, progress against these programmes is tracked via the London Underground Safety Action Tracking System (LUSATS).

**Sub-Objective 3: Continue to streamline health and safety standards and assurance arrangements**

Programme 1: Standards Development

Milestone	Date	Lead Manager
Upgrade all station emergency plans to be emergency scenario specific	31 <sup>st</sup> March 2007	Mike Maynard, Head of Operational Support
Simplified and strengthened processes and standards for all assurance deliverables.	6 <sup>th</sup> June 2006	Ian Gaskin, General Manager SQE Contracts
Safety decision making balancing risk and cost embedded in the step free access scheme.	30 <sup>th</sup> December 2006	David Burton, General Manager SQE Systems & Assurance

Programme 2: Assurance Regime Strengthening and Rationalisation

Milestone	Date	Lead Manager
Centralise the separate LU audit functions to ensure a consistently high quality of audit	31 <sup>st</sup> March 2007	David Burton, SQE Systems Assurance Manager.
Areas identified where LU intrusion can be reduced. Confidence within the Infracos that LU mean to follow through with the principles of the Assurance Regime developed.	28 <sup>th</sup> May 2006	Ian Gaskin General Manager SQE Contracts
A suite of high-level performance measures which allow an objective determination of the effectiveness of the Assurance Regime developed. Including metrics to measure both compliance to assurance processes and the adequacy of outputs.	18 <sup>th</sup> July 2006	David Waboso, Director of Engineering
A two tier tool developed which allows the objective determination of risk based intrusion levels consistently across all asset disciplines.	20 <sup>th</sup> July 2006	David Waboso, Director of Engineering
The Assurance Regime Development Plans and intrusion model for each engineering discipline are understood by each Infraco and PFI supplier and are coordinated with their Assurance development programmes.	25 <sup>th</sup> July 2006	David Waboso, Director of Engineering
LU Engineering Directorate accreditation process incorporated into	20 <sup>th</sup> September	David Waboso, Director of Engineering

Milestone	Date	Lead Manager
the risk based intrusion model.	2006	
Clear technical and performance requirements provided to Infracos and PFI teams at the start of the engineering lifecycle.	26 <sup>th</sup> September 2006	David Waboso, Director of Engineering
Implementation of streamlined assurance processes, based on those utilised in the station modernisation work programmes.	6 <sup>th</sup> October 2006	David Waboso, Director of Engineering
Rationalised structure for the planning and delivery of safety and technical audits and analysis of audit findings linked to the Engineering Directorate, Safety Quality Environment Directorate, Chief Programmes Office and Chief Operating Offices Directorates processes for inspection and surveillance.	31 <sup>st</sup> March 2006 ( <i>is this the right year??</i> )	Ian Gaskin, General Manager SQE Contracts

Programme 3: Working Reference Manual Rationalisation

Milestone	Date	Lead Manager
Replacement of WRM - Operational module	31 <sup>st</sup> March 2007	Mike Maynard – Head of Operational Support
Replacement of WRM - Engineering module	31 <sup>st</sup> March 2006	Mike Maynard – Head of Operational Support
Replacement of WRM - non operational/engineering modules	31 <sup>st</sup> March 2007	Mike Maynard – Head of Operational Support

Programme 4: Compliance with New/Revised Health and Safety Regulations

Milestone	Date	Lead Manager
Submit revised LU safety case to HMRI for acceptance under the new Regulations.	31 <sup>st</sup> December 2006	David Burton, General Manager SQE Systems & Assurance

Programme 5: Three Yearly Review of Health Safety Environment System

Milestone	Date	Lead Manager
3 year review of HSEMS including, <ul style="list-style-type: none"> <li>Ongoing suitability of health and safety arrangements</li> <li>Degree of compliance with stated arrangements</li> <li>Outs from the management system in terms of safety performance</li> </ul>	30 <sup>th</sup> June 2006	David Burton, General Manager SQE Systems & Assurance

**Sub-Objective 4: Further enhance the competencies of LU managers and staff to ensure the necessary standards are consistently achieved**

Programme 1: Decision Making and Better Use of the Risk Assessment Models

<b>Milestone</b>	<b>Date</b>	<b>Lead Manager</b>
Communicate 2006 QRA models in line with communications plan	31 <sup>st</sup> March 2007	David Burton, General Manager SQE Systems and Assurance

Programme 2: Enhancement of Incident Management Skills and Processes

<b>Milestone</b>	<b>Date</b>	<b>Lead Manager</b>
Implementation of cascade of best practice incident investigation skills to those who undertake local investigations.	31 <sup>st</sup> March 2010	Jill Collis, General Manager, SQE Operations

Programme 3: Development of Structured Health, Safety and Environment Topic Briefings

<b>Milestone</b>	<b>Date</b>	<b>Lead Manager</b>
Development and roll out of health, safety and environment topic briefings for managers	31 <sup>st</sup> March 2007	Jill Collis, General Manager, SQE Operations

Programme 4: Competence Assurance for Service Control Staff

<b>Milestone</b>	<b>Date</b>	<b>Lead Manager</b>
Introduction of the competence assurance regime for service control staff	1 <sup>st</sup> March 2007	Mike Maynard – Head of Operational Support

Programme 5: Risk Based Competence Management System (CMS) for Safety Critical for Workers

<b>Milestone</b>	<b>Date</b>	<b>Lead Manager</b>
Development of a generic competence management process, assessment documentation and associated competence standards for all safety critical workers	31 <sup>st</sup> March 2007	Mike Maynard – Head of Operational Support

Programme 6: Risk Based Operational Learning and Training for Safety Critical Staff

<b>Milestone</b>	<b>Date</b>	<b>Lead Manager</b>
Development of a risk-based quality management system for design and delivery of operational training activities that aligns with the CMS assessment processes	31 <sup>st</sup> March 2007	Kevin Hafter - Head of Operational Learning



Note. All the programmes summarised above are entered in more detail with interim milestones on the London Underground Safety Action Tracking System (LUSATS). This is available on managers' desktop system in LU, Metronet, Tube Lines and HMRI and enables all concerned to ensure that the whole programme is delivered to target.

## Criteria for actions driving the Safety Improvement Plan

The agreed drivers for identifying and developing any actions or strategies which need to be included in the safety plan are as follows:

- Legislation – This includes any legislation / guidance / standards that have been or are going to be introduced or amended and require action to gain compliance.
- Assurance - Results and actions arising from assurance and investigative activities. (Third party audit findings and significant trends identified from internal audits).
- Actions required to maintain compliance with LU's Railway Safety Case and Infracos' Contractual Safety Cases.
- Significant issues raised by staff -This is done through analysis of issues raised through formal health and safety representative meetings and annual safety conferences.
- Significant events – This includes improvements identified as a result of any significant events that have occurred either internally or externally.
- Analysis of Safety Risk Performance statistics.
- Asset maintenance Plans including elements within the Asset Maintenance Plans which are specifically designed to improve safety.
- Significant corporate level improvements identified from both quantified and qualitative risk assessments
- Ongoing activities from the previous safety plan, programmed for completion in 2005/6 or later.