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# Executive Summary

## Objectives and Scope

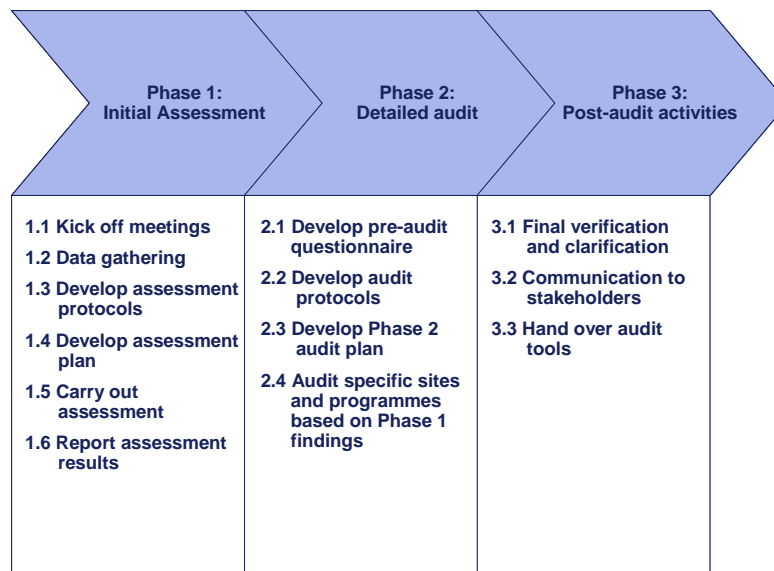
Arthur D. Little has been retained by London Underground Limited (LUL) to conduct an independent safety audit of its operation. The overall aim of the audit was to examine the adequacy and effectiveness of LUL's health and safety management arrangements. The audit had two specific objectives:

- To satisfy the requirements of the new Railways (Safety Case) Regulations<sup>1</sup> for procuring and conducting an independent audit of LUL's health and safety management arrangements
- To assure the LUL directors and board members of Transport for London (TfL) that health and safety arrangements are effective following LUL's restructuring as part of the Public Private Partnership (PPP)

The audit examined the adequacy and effectiveness of LUL's health and safety management systems, and included an assessment of the adequacy and effectiveness of LUL's assurance regime for health and safety. The audit assessed in particular the interface between LUL and the Infracos.

## Approach

Our approach consists of three main audit phases, each with a series of well-defined tasks:



This report contains the results of the initial assessment phase (Phase 1), which was conducted between September 2003 and January 2004.

<sup>1</sup> The Railways (Safety Case) (Amendment) Regulations 2003

## **Conclusions and Recommendations**

Based on the initial assessment carried out, the general London Underground safety management arrangements appear to be robust. LUL has developed and implemented a health and safety policy and processes to implement the policy. The processes are, in general, supported by appropriate organisational arrangements and resources. The processes and organisational arrangements are detailed in LUL's Railway Safety Case, the company's Health, Safety and Environmental Management System (HSEMS) manual and a great number of individual standards.

Whilst it has been concluded that the critical processes required for managing safety are in place, a number of areas where improvement is needed have been identified. These are outlined below in the detailed findings and recommendations and will be subject to further assessment and verification during Phase 2 of the audit.

### ***Roles and Responsibilities***

#### ***Recommendation 1***

LUL should carry out a detailed audit of the process of developing responsibilities of key staff to understand:

- How those responsibilities were developed to ensure that key safety management requirements are addressed
- Whether the responsibilities of each member within a group are coherent and consistent such that there are no gaps or overlaps
- How staff are briefed on their responsibilities and the responsibilities of other with whom they work closely
- How responsibilities are defined and maintained in general and at interfaces

### ***Role of Support Functions***

#### ***Recommendation 2***

LUL should consider carrying out a strategic review of the role of key support functions. This should be based on a thorough analysis of stakeholder needs, in particular the Human Resources (HR) and Chief Engineer's Department (CED) support needs of operations and contract management staff. This review should clarify their role in the new organisation, such as, for example, the extent to which it might include standards setting, surveillance, auditing and technical support. This should clarify the most appropriate structure and resource requirements.

## **Assurance**

### ***Recommendation 3***

Improve the assurance arrangements in order to assure internal and external stakeholders, particularly the LUL directors and TfL board members, that health and safety arrangements are effective following LUL's restructuring as part of PPP. This should begin by clarifying the role and importance of assurance, communicating this to all involved in the assurance chain and ensuring that there is common understanding. Clear requirements from the top down need to be established so that "suppliers of assurance" know exactly what to deliver.

[Note: London Underground has recognised the importance of assurance under the PPP arrangements and is hence seeking to further strengthen its assurance arrangements through the Safety Improvement Programme. Likewise, the Infracos have taken steps to improve their assurance plans to address LUL's concerns.]

## **Track Access**

### ***Recommendation 4***

The process for granting track access should be thoroughly reviewed, taking into account both the Infraco and the Track Access Control perspectives. This is to inform process improvements and address bottlenecks and inefficiencies in the current arrangements. The Track Access Control Centre maintains statistics on the reasons why requests for access are rejected – careful analysis of these data may point to areas where both sides can improve efficiency. The forthcoming semi-automation of the verification process is really a computerisation of the existing process. Consideration should be given to redesigning the process as a whole, to take greater advantage of current technology solutions.

## **Change Management**

### ***Recommendation 5***

The proposed improvement programmes should be checked to better understand whether adequate time and resource provisions have been made to address the level of approval work required in the future. The aim of this check would be to ensure that SRCC<sup>2</sup> and TANC<sup>3</sup> approvals are managed efficiently when improvement programme workload increases. Additional training may be required to ensure that there is a clear and consistent understanding of the processes, together with the form and quality of submission that will be required.

<sup>2</sup> Safety Review and Change Control

<sup>3</sup> Temporary Approved Non-Compliance

LUL and the Infracos should consider these needs during the final development of assurance plans to see if there is scope for ensuring that adequate Infraco control of the processes is in place.

### ***Risk Assessment***

#### ***Recommendation 6***

Review how the QRA<sup>4</sup> model and its results are used to inform business and planning decisions. Consider ways of strengthening the use of the QRA model and its results to inform business and planning decisions as appropriate based on the results of the review. This is to ensure that business decision take full account of the results and priorities of the QRA model.

### ***Approving New Equipment***

#### ***Recommendation 7***

LUL should consider carrying out a benchmarking assessment of current approaches to approving new equipment. This should involve looking at the way other railways, with similar regulations regimes, handle their approvals. This is to ensure that the process for approving new equipment will be able to cope efficiently with the level of work planned during the improvement process over the next years.

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

#### ***Recommendation 8***

Review the SPAD reduction programme to identify how the value from monitoring and reporting can be improved. The review should aim to better focus the programme on identification of root causes for both good and bad performance, together with developing a thorough understanding of any cultural barriers to improvement. The aim is to ensure that the causes of SPADs are identified effectively and resources are focussed directly on addressing those causes.

### ***Standards***

#### ***Recommendation 9***

LUL should consider strengthening the communication of progress across the business on the standards revision project and ensure that a rigorous process is in place for briefing new and revised standards to relevant staff. Furthermore, LUL and the Infracos should ensure that staff are provided with adequate support to help staff better understand how to work with the new standards.

<sup>4</sup> Quantified Risk Assessment

## **Occupational Health**

### **Recommendation 10**

Ensure that actions proposed in the occupational health plan and strategy are appropriately funded and implemented, and that their effectiveness is monitored and reviewed.

## **Training and Competence Assurance**

### **Recommendation 11**

Organisational changes should be briefed to front line staff in the relevant parts of LUL and the Infracos.

LUL and the Infracos should review the competence management process carried out for drivers and other LUL staff to look for opportunities to streamline the process, based on experience to-date, with the aim of rolling out across the remaining nominated LUL staff and the Infracos.

Job requirements should be clearly identified and training tailored to meet those needs with the aim to ensure that the provided training meets the job specific needs. [Note: TfL/LUL have already taken some steps to address this issue.]

## **Action Tracking**

### **Recommendation 12**

Progress to date has been noted and is ongoing. However, LUL should review the criteria for tracking actions using LUSATS<sup>5</sup> with the aim of focusing LUSATS on a manageable number of high priority actions and dealing with other actions through routine line management tools such as personal objectives and departmental action plans.

## **Performance Metrics**

### **Recommendation 13**

LUL has recently developed proposals and plans for a suite of performance metrics. The safety-related metrics should be based on precursors to the main risks defined in the LUL QRA. The links between the precursors and the metrics should be documented and verified.

<sup>5</sup> London Underground Safety Action Tracking System

### ***Maintenance Performance***

#### ***Recommendation 14***

Recommendation 3 describes the need to make significant improvements across the business to the understanding of the assurance principles on which the current contractual arrangements for maintenance and projects are based, in particular, how these will affect front line activities.

There is also an urgent need to agree and approve the assurance arrangements so that the business can implement them as soon as possible.

### ***Audit and Review***

#### ***Recommendation 15***

The Infracos should review their current programmes to identify whether there is a shortfall in the necessary amount and quality of auditing or whether the plans are overly burdensome. The aim is to have in place realistic audit programmes that are structured to give an appropriate level of coverage at appropriate frequencies and adequate audit quality.