Delivering Health and Safety on the ODA Construction Programme
A review report for the Olympic Delivery Authority

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Delivering Health and Safety on the development of the London 2012 Olympic Park and Athletes’ Village

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Delivering Health and Safety on the development of the London 2012 Olympic Park and Athletes’ Village

1.0 Introduction

At the end of 2010, Loughborough University was asked to provide an outline narrative of health and safety and other initiatives on the Olympic Park and Village and narrative descriptions to explain how the Olympic Delivery Authority (ODA) approached health and safety. A member of the Loughborough University Construction Health and Safety team was seconded part-time to the ODA to complete this task as the health and safety Rapporteur.

The Rapporteur was given access to record files with the use of the ODA’s intranet and key personnel from the ODA and delivery partner (Delivery Partner: an organisation drawing staff from CH2M Hill, Laing O’Rourke and Mace) were made available to interview. The work of the Rapporteur required that an understanding of construction and health and safety be used to identify salient information but personal views are not represented. The Rapporteur’s findings were fed back to the ODA’s health and safety team and this overview/summary document was produced.

This document should provide the Learning Legacy health and safety research projects with a consistent story of the health and safety management on the Olympic Park and Village and to contribute to publications. The main report summarises the key aspects and more information is provided in the appendices.

2.0 Planning by the Olympic Delivery Authority

The London 2012 construction programme encompasses the Olympic Park, the largest regeneration project in Europe, the Athletes’ Village, Europe’s largest new housing project, and several other sites remote from the park.

The organisation of the delivery team has been published in various places, but is summarised in Appendix A4 for convenience.

Health and safety needs to be integral to managing major construction projects, due to moral commitments, legal obligations and control of risks (of hazards, to reputations and of missing deadlines). The (ODA) has produced a clear statement to inform those delivering the project of the client’s aspirations.
The ODA statement is in the form of the Health, Safety and Environment\(^1\) (HS&E) Standard. This outlines the procuring of designs, appointment of contractors and the building of the new venues and infrastructure work in relation to health, safety and the environment. It indicates some of the appropriate requirements (e.g. membership of Considerate Constructors, to work in line with the Respect for People initiative and use a behavioural safety programme) for those wishing to work on the project and sets out key performance indicators (e.g. zero fatalities, accident frequency rate (AFR) benchmarked against ‘one in a million’). Details of the performance indicators can be seen in Appendix A1. The Standard was adopted by the Board, and formed part of the Works Instructions for every ODA construction contract.

In addition to all of the complex management arrangements associated with a major project, several phases of work are incorporated within the construction schedule. This includes enabling work to prepare the site for development; venue and infrastructure work to provide the facilities for the Games; deconstruction of the temporary structures at the end of the Games and prepare for legacy work to transform the sites to meet criteria for future use.

As part of the aspirations of the ODA, construction work has to incorporate six key themes (Safety & Security, Equality & Diversity, Employment & Skills, Design and Accessibility, Sustainability and Legacy) interwoven across all of the projects during every phase. This is represented in Figure 1 and details of the overall policy values are given in Appendix A2.

The HS&E standard reminds contractors of their responsibilities under the Construction Design and Management (CDM) regulations and informs them that a CDM integrator appointed by ODA/Delivery Partner is to work with the CDM coordinators to produce a consistent approach across the separate projects.

Using a formal scorecard system as well as an accident/investigation reporting arrangement (both web-enabled) the tier 1 contractors, Designers and CDM Coordinators are required to self-monitor and submit monthly reports on their efforts to achieve high HS&E standards, accidents, incidents and significant near misses to Delivery Partner.

\(^1\) Environmental issues are included in much of the Olympic Park protocols – However, they are not specifically included in this review.
2.1 Communications

The HS&E Standard states that ‘each supplier, the ODA and Delivery Partner shall ensure that there are effective communication arrangements to inform all site personnel of key issues including progress, lessons to be learned from incidents, campaigns, and programmes of risk control. ‘HS&E information is communicated to the workers on a daily basis mainly through the worker engagement processes (Daily Activity Briefings (DABs), toolbox talks and encouraging workers to speak out about their concerns). The DABs for example, ensure that all work teams understand their tasks for the day and any associated HS&E implications/requirements. The worker engagement activities generally occur within projects but there is also programme-wide communication in the form of stand-down briefings\(^2\) to highlight hot topics as they arise but also to refresh workers health and safety awareness after Christmas/New Year breaks.

Opportunities exist for communication across projects through a number of forums:

- Project Leadership Teams (PLTs)
- Safety Health and Environment Leadership Teams (SHELTs)

\(^2\) Where all workers take time out from their tasks and are briefed by a senior manager
• Health Safety and Environment Forums

These meetings allow key personnel from the tier 1 contractors and their suppliers to share HS&E information. The relationship between these meetings and the leadership model can be seen in Appendix A3.

Various documents are also used across the projects such as HS&E Bulletins to provide feedback to the project teams on overall performance and the requirement to comply with Common Standards which are produced by Delivery Partner to deal with emerging HS&E issues on a continual basis.

Specialist software facilitates the exchange of health, safety and environmental information between ODA/Delivery Partner and the tier 1 contractors.

One web based software package is used across all projects to enable the tier 1 contractors to input information regarding accidents, incidents and to complete health, safety and environmental scorecards. The system allows for user permissions to enable an appropriate e-mail notification of incident options (e.g. minor, lost time not reportable, lost time reportable, major injury, fatality) to be sent depending on user needs. These notifications include standard text together with key data (classification, date, project). The system also allows ODA/Delivery Partner to send health, safety and environmental alerts as well as common standards to the contractors.

A second software package provides the safety culture climate survey process. This software was originally developed for use on rail safety standards and has been redeveloped to suit ODA requirements. The survey is carried out approximately every nine months and the tier 1 contractors have access to their own results allowing them to analyse their health safety and environmental performance. ODA/Delivery Partner use the combined results from all projects to develop strategies.

3.0 Tier 1 contractors’ HS&E measures

At the design stage, designers have to consider the HS&E aspects of their designs and, as early as possible, work with contractors to discuss the impact of the design on construction. On most of the projects the designers are brought back into the projects as part of integrated teams to work with the successful contractors.

The tier 1 contractors are expected to use their own HS&E systems and so are their suppliers. However, the tier 1 contractors also have to meet the aspirations of the ODA HS&E standard and ensure that their suppliers have the necessary competences, systems and resources to do the same. The management structure of London 2012 showing the links between programme and project delivery are shown in Appendix A4.
The Delivery Partner provides the skills required to deliver the project and meet ODA aspirations. An HS&E management manual (HSEMM) produced by Delivery Partner in order to implement the requirements of the ODA HS&E Standard is available to tier 1 contractors to use.

Implicit in the ODA standard is that tier 1 contractors have a behavioural safety management system in place, but the choice and design of the system remains the responsibility of the tier 1 organisation. Some of the worker engagement aspects to be adopted include:

- Open ‘no blame’ culture
- Leadership
- Robust safe systems of work
- Communications up and down

Tier 1 contractors were required to consider programmes which incentivise personnel and teams at all levels to make a positive contribution to good health and safety performance. Reward and recognition for workers on the London 2012 construction projects includes:

- Pin badges for worker contributions
- Specially made t-shirts
- Monthly SHELT awards
- ODA Annual awards
- Free BBQs
- Breakfast vouchers

### 3.1 Health as well as Safety

Over and above the provisions for safety management there is an ODA-appointed Occupational Service Provider operating on site. Park Health (and for the Athlete’s Village, Village Health) run a comprehensive prevention programme which includes health checks, health surveillance and health promotion. This support is available for all workers and all suppliers are to ensure that their personnel actively participate.

A team of doctors and nurses provide on-site clinical medicine cover along with a team of occupational hygienists who focus on preventative strategies. This team aims to promote better health management for those working on the site by focussing on four elements delivered through:

- Health checks and full medicals for safety-critical workers.
- Prevention and/or minimization of exposure to health risks at work.
• Professional treatment of health conditions, based on a paramedic emergency team, a drop-in medical centre and liaison with the NHS.
• Information and practical services to support well-being.

The team’s support ranges from involvement with designers to help minimise health risks during construction; occupational physiotherapist attendance on site one day per week with part consultancy role and parts promotion role; assistance with the development and delivery of tier 1 contractors’ site induction programmes; GP/nurse on site presence and to accidents/incidents emergency response with a paramedic service. The service supports employers in reducing and managing on-site health risks through:

• Providing advice to achieve compliance with both general duties (safe place and systems of work) and specific regulatory requirements (e.g. COSHH)
• Providing specific services such as Drugs and Alcohol testing
• Assisting, on request, with services such as rehabilitation and return to work.

4.0 Assurance measures (Delivery Partner)

In addition to the tier 1 contractors’ monitoring, auditing and accident/incident investigations in their own management systems, Delivery Partner carry out assurance audits based on risk profiles, statistics, and trends unique to the tier 1 contractor or across the Park. Using periodic site HS&E inspections the Delivery Partner audits explore the health and safety performance on the various projects, seek to validate and verify the self-monitoring reports by the tier 1 contractors and report back to ODA.

HS&E issues are discussed at monthly HS&E forums run by Delivery Partner, where senior representatives from all of the project contractors share their experiences. The forums are also used to produce coordinated responses to HS&E issues in the form of common standard documents.

In order to do their inspections effectively the assurance team identify HS&E priorities three months ahead of the work. This is achieved through:

1. HS&E scorecards which are submitted by the tier 1 contractors, CDM coordinators and lead designers through the online reporting system every month. The assurance team sample the scorecards for detailed examination.
2. Compliance reviews which can either be themed (i.e. looking at the manual handling operations for all tier 1 contractors) or specific (looking at key risks for current stage of particular projects).

3. A member of the assurance team also works with each project, having monthly meetings to look at the performance and direction of the project.

This process is summarised in Figures 2 and 3.

The assurance team are also kept informed of near misses and accidents through the online incident tracker. Near miss and accident information is fed into the tracker which alerts those involved with health and safety. The alerts are filtered depending on the seriousness of the event and the level of security clearance of the individual.
Figure 2: Regulation of HS&E Performance
5.0 Continual improvement by all parties

Project managers from tier 1 contractors, the HS&E team and Delivery Partner are represented at the monthly HS&E forums. The forums provide an opportunity for contractors to share information. Director level executive management teams from the ODA, Delivery Partner and the tier 1 contractors form the HS&E leadership team (SHELT). They meet regularly and tackle initiatives and innovations such as agreeing visual standards and establishing a mandatory supervisor course on leadership and behaviour. Such training was acknowledged via ‘hall of fame’ posters, stickers on helmets and the issue of London 2012 H&S badges. Leadership on HS&E is emphasised with SHELT members deciding on and presenting awards at the monthly HS&E forums (see Appendix A3). It is primarily through SHELT that a number of Common Standards have been produced and used throughout the Park to raise standards against particular risks.

Every month a member of the assurance team meets with each tier 1 contractor to discuss their HS&E reports and agree on any action required. Any slippage by contractors against Priority Theme commitments leads to Delivery Partner giving direction for improvement.

All parties have a role in the continual improvement of HS&E activities: -

- ODA – acts on information received through Delivery Partner, HSE, industry & stakeholders.
• Delivery Partner - reports to ODA and works with the tier 1 contractors on any improvements needed.

• Tier 1 contractors – work to their own HS&E systems and respond to Delivery Partner guidance.

• Supervisors – their attendance is required for training to ‘up-skill’ so they can be effective on the ground and deliver messages to lead on HS&E with the work teams.

• Workers – given information, empowered to ‘not work’ if they feel unsafe and given an opportunity to discuss improvements during the daily activity briefings (DABs) and committee meetings.

This cyclical process of continual improvement is illustrated in Figure 3 and includes the associated cycles within each of the projects as contractors seek to improve their performance with their subcontractors. This is in line with OHSAS 18001 Standard methodology known as “Plan-Do-Check-Act”.

The Health, Safety and Environment (HS&E) Standard produced by the ODA listed health and safety systems that potential suppliers should have in place as a measure of competence. The health and safety management systems of the ODA and Delivery Partner are independently certified to the international health and safety standard OHSAS 18001 and are robust to high level independent third party auditing.

6.0 Legacy

As part of the legacy initiative for all Olympic projects, contractors are required by ODA/Delivery Partner to produce a close out report in order to capture lessons learned on the project. As well as the report providing a review and record of the performance data on the project in terms of time, cost and fitness for purpose it records the performance of the project against the priority themes which include health and safety. So there will be a record of project health and safety performance against the project’s business case and the targets and commitments determined by the ODA policies and strategies. A section of the report is dedicated to lessons learned during the project and any outstanding scope of the project and outstanding elements to be handed over to third parties are included in the final section of the report. Similarly, there is a Priority Theme Close-Out Report, including one for Health and Safety

These reports and associated health and safety research projects (Appendix A5) form part of the learning legacy which provides information of lessons learned during the development of the London 2012 construction programme.
Appendices

The following tables have been reproduced from ODA documents or developed from information obtained from ODA documents

<table>
<thead>
<tr>
<th>Safety - Accidents</th>
<th>Aim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rolling Accident Frequency Rate at end of reporting period – this is an aspiration</td>
<td>&lt;0.1</td>
</tr>
<tr>
<td>Zero Fatalities</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Random drug and alcohol testing for 5% of the Olympic Park workforce per year (based on forecast contractor workforce)</td>
</tr>
<tr>
<td>5 minute response time from dispatch of the ambulance to the RVP (rendezvous point)</td>
</tr>
<tr>
<td>Engagement with all PCs on site in establishing and developing their OH programme</td>
</tr>
<tr>
<td>Provision and attendance – health checks and surveillance</td>
</tr>
<tr>
<td>Provisions and awareness of support available for workers returning after ill health absence?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HS&amp;E Competence</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% site workers hold CSCS or equivalent cards, logged into scheme</td>
</tr>
<tr>
<td>5 training days per year (4% of workforce)</td>
</tr>
<tr>
<td>Training records logging all training activities inc. ‘Toolbox Talks’ (evidenced through audit)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Designing for HS&amp;E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidence of processes to identify and evaluate design options with regard to HS&amp;E risk</td>
</tr>
<tr>
<td>H&amp;S scorecards for all projects are over 75%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HS&amp;E Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidence of leadership, behaviour and culture (scorecard) Scorecard across the 3 elements of CDM, Design and Project scorecards at the end of December 2009 is 86.86 (end of Q4 2009 was 86.31)</td>
</tr>
<tr>
<td>Employee responses to HS&amp;E Climate Surveys – indicators to quantify practice and impact.</td>
</tr>
</tbody>
</table>

Note: The above table has been reproduced from the Olympic Delivery Authority ODA Construction Department OH&S System Manual Management Review. Dated 20th May 2010.
Appendix A2. Details of the London 2012 Policy Values and Priority Themes

Mission
To deliver venues, facilities, infrastructure and transport on time for the London 2012 Olympic and Paralympic Games that are fit-for-purpose and in a way that maximises the delivery of a sustainable legacy within the available budget.

Overarching themes

Time, Cost and Fit for purpose

Objectives

Priority themes

Venues
Site Platform
Village Vertical Build
Transport
Operations
Stratford Projects
Other Projects

Health, Safety & Security
Sustainability
Equality and Inclusion
Employment and Skills
Legacy
Design and Accessibility
Appendix A3. Details of the London 2012 HS&E Leadership Model

2012 HS+E LEADERSHIP MODEL

Inputs Required

ODA
- ODA Leaders
- CLM Leaders

Delivery Partner

Principal Contractor
- HS&E Leadership Board
- CEO Forum

Title

Activities
- Touch
- Move
- Inspire
- Engage
- Strategic Alignment
- Provide challenge and Support to SHELT
- Set standards, Develop Strategy, Motivate Project Teams, Launch Programs, and Campaigns
- Provide recognition
- Develop tactics
- Delivery
- Project awards

Programme

Project Sponsors

CLM Exec

Ops Directors

Representation from SHELT into PL teams

Project Team
- Project Leadership Team(s)

Construction Managers
Supervisors
Operatives

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Appendix A4. Details of the London 2012 management structure

Programme Sponsorship

Viewed as one entity by most T1, T2, T3 employees

Programme Delivery

Tier 1

Tier 1

Tier 1

Tier 1

Tier 1

Tier 1

T2

T2

T2

T2

T2

T2

etc

etc

T3-T3-T3

T3-T3-T3

T3-T3
## Appendix A5. Learning Legacy Health and Safety Research Projects

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Description</th>
<th>Research Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Park Health</strong></td>
<td>A review of the occupational health programme and the impact of interventions including cost benefit evidence, impact on health attitudes, behaviours, exposure to H&amp;S risk, making employer of choice a reality and impact on future behaviours</td>
<td>Institute of Employment Studies</td>
</tr>
<tr>
<td><strong>CDM Duty Holders</strong></td>
<td>To assess the impact of both the 1994 and 2007 CDM Regulations (including the transition between the two) on the delivery of the safe, effective and efficient construction of the new games venues.</td>
<td>Frontline Consultants</td>
</tr>
<tr>
<td><strong>Leadership and Worker Involvement</strong></td>
<td>The aims for this specific research are to compare the different approaches to the management of health and safety relating to leadership and worker involvement by investigating practice, barriers and enablers, to better understand and promulgate the benefits of a collaborative approach to health and safety supported by strong leadership</td>
<td>Institute of Employment Studies</td>
</tr>
<tr>
<td><strong>Evaluation of H&amp;S Initiatives (including site communications)</strong></td>
<td>The main aim of this project is to evaluate the efficacy and impact of the range of Health and Safety initiatives taking place on Olympic Park development site.</td>
<td>Loughborough University</td>
</tr>
<tr>
<td><strong>Supply Chain Management for H&amp;S</strong></td>
<td>To evaluate the extent to which contractors on the Olympic Park learn from each others' implementation of initiatives (is good practice shared between contractors?) To evaluate the extent to which good practice from Olympic Park is transferred to other sites managed by Olympic Park contractors (have initiatives been shared beyond the development site?)</td>
<td>Cardiff Work Environment Research Centre (CWERC), Cardiff University</td>
</tr>
<tr>
<td><strong>H&amp;S Culture - safety climate tool series.</strong></td>
<td>To develop 8 case studies from the construction phase of the London 2012 Games; To use the 8 case studies as communication tools for the Construction industry.</td>
<td>Health and Safety Laboratories</td>
</tr>
<tr>
<td><strong>Catering</strong></td>
<td>A comprehensive food safety and sustainable sourcing Standard that goes beyond legal compliance available for use. An overview of the client lead auditing programme. Case studies on the impact the guidance and support from a worker, construction contractor and caterer perspective. KPI model that can be added to a catering contract.</td>
<td></td>
</tr>
</tbody>
</table>