

Head Office Environment Champions and LU's Energy Saving Challenge.

We have assessed and evaluated the impacts of extreme weather and future climate change on our assets and services, referencing the 2009 United Kingdom Climate Projections (UKCP 09). We have focused on the predictions for Greater London rainfall and temperature in the 2020s, 2050s and 2080s. With today's extreme weather, we have a proactive planning approach in response to forecasts. We aim to run as many services as possible and provide accurate real-time information as a situation develops, and this has received positive feedback following the winter storms and rain of 2013/14.

Objectives

- We will minimise our energy use and therefore the carbon emissions of assets, buildings and vehicles
- We will use energy-efficient and low-carbon principles are embedded across all levels of the organisation
- Our energy will come from verifiable low-carbon or renewable energy sources
- We will minimise the risks to people, operations and assets from extreme weather and climate change

Targets

We will contribute towards achieving the Mayor's target of a 60 per cent reduction in CO₂ emissions by 2025 (against a 2013

baseline) by aiming for a 40 per cent cut in TfL CO₂ emissions.

We will further reduce the amount of carbon per passenger journey by cutting emissions of CO₂ per passenger kilometre by 40 per cent by 2025 (against a 2013 baseline).*

A 40 per cent reduction in overall CO₂ emissions is a stretching target as our planned increase in services and infrastructure will result in a further rise in energy use. To fully meet our targets requires the reduction in the carbon intensity of grid electricity as projected by the Government's Committee on Climate Change.

We will achieve these targets by:

- Diversifying energy supply to increase the amount of decentralised energy from local generators in London. Our aspiration is to achieve 20 per cent of annual demand from these sources by 2016 and 40 per cent by 2020
- Embedding energy efficiency and resilience in business processes, for example business cases, design and procurement
- Introducing a programme of energy efficiency improvements for our assets and buildings, using the GLA's RE:FIT methodology where appropriate
- Developing a culture of energy efficiency and low-carbon behaviour across the organisation through, for example, staff engagement initiatives and performance management



TfL is delivering energy efficient lighting at many tramstops, stations, tunnels and buildings

- Using low-carbon fuels and vehicles in our fleet, including the hybrid bus roll-out; biodiesel bus pilot; trialling and promoting electric vehicle and hydrogen fuel cell technology for buses, Dial-a-Ride vehicles and our support fleet; and working with Government agencies to achieve our goals
- Taking a risk-based approach to identifying and managing key weather and climate vulnerabilities. We will keep our identified risks as low as is reasonably practical and will review them on a regular basis

Measuring progress

We will measure and publicly report on our carbon emissions against an annual forecast. This will cover the emissions that we have control over, for instance arising from buses, Underground and Overground trains, DLR, Tramlink and head office buildings.

We will also report on weather and climate change resilience reviews and plans.

Air quality

Reducing polluting emissions and exposure to air pollution in London

We are a key partner in delivering the Mayor's Air Quality Strategy, through policy measures such as the Low Emission Zone, delivering sustainable transport options and promoting low-emission vehicles, walking, cycling and smarter travel choices.

We aim to reduce emissions to air from our bus fleet, the taxis and private hire vehicles we license and our support fleet. We also aim to lead by example, demonstrating good practice in the type of vehicles we use and how they are operated. Combustion of fuel results in emissions of pollutants into the air as particulate matter (PM) and oxides of nitrogen (NO_x).

The Transport Emissions Action Plan sets out our continuing work to achieve air quality improvements from wider, private transport in the Capital. This includes plans to develop an Ultra Low Emission Zone in central London by 2020. The environmental performance related to this is outside the scope of this framework.

Achievements

We are proud to have the cleanest bus fleet in the UK as a result of fitting diesel particulate filters (DPFs) to Euro II and III vehicles and introducing diesel-electric hybrid buses, including the New Routemaster. NO_x emissions will be reduced further with the early replacement of approximately 900 Euro III vehicles with Euro VI models and retrofitting the remaining Euro III buses in the fleet with selective catalytic reduction equipment.

Similar efforts are being made to reduce emissions from other parts of our fleet. Trials

of ultra low-emission vehicles will continue in the support fleet and DPFs are being fitted to Woolwich Ferry vessels. We are also working with the taxi and private hire industry to encourage the introduction of ultra low-emission vehicles.

The Mayor has called on local authorities to introduce innovative measures to improve air quality through the Mayor's Air Quality Fund. This builds on lessons learnt from the Government-funded Clean Air Fund, which:

- Trialled dust suppressants
- Fitted DPFs on buses on routes through air quality priority areas
- Encouraged behaviour change through public campaigns and advice for drivers of taxis and private hire vehicles
- Researched the air quality benefits of green walls

We have reduced dust from our construction activities, for example, at the Tottenham Court Road and Victoria station upgrade projects, and cut vehicle air emissions associated with freight transport by developing detailed delivery and equipment removal plans.

Objectives

- We will work towards zero pollutant emissions from our fleet vehicles
- We will include air quality requirements in policies, projects and contracts



Our electric bus on trial from Victoria to Waterloo

Targets

We will seek to support the Mayor's air quality targets for London by delivering a 50 per cent reduction in NO_x emissions from the bus fleet by 2020, against a 2013 baseline.

We will reduce PM emissions from the bus fleet by 25 per cent by 2020, against a 2013 baseline.

These targets are ambitious but will be achievable through a range of measures including:

- Delivering selective catalytic reduction to reduce NO_x emissions from Euro III buses
- Introducing 1,700 hybrid buses by 2016
- Implementing a technology and fuel demonstration programme to reduce emissions from buses, including trialling hydrogen and electric buses

- Continuing to implement our support fleet environmental policy, working with the Office for Low Emission Vehicles to achieve air quality and carbon reduction goals
- Working in partnership with Government, the EU and other transport organisations and technical experts to continue trialling new technologies and fuels. Hydrogen buses are a small but important part of the fleet and the first electric buses began running in London 2014. Infrastructure development will continue to support these emerging technologies and trials of wireless induction charging is the next important step
- Specifying, through procurement and contracts, that our suppliers must meet emission requirements for their vehicle fleets

Measuring progress

We will measure and report publicly on the 50 per cent reduction target for NO_x and 25 per cent reduction target for PM emissions by 2020, against an annual forecast.

Noise

Effectively managing and controlling transport-related noise and vibration

Noise is an important part of determining quality of life in the Capital. Sound levels or vibration from transport, such as train and vehicle movements, construction works or public announcements, can affect those who work or live close to the transport system.

We want to ensure that noise disturbance is minimised wherever possible. As a result we make every effort to specify noise limits and good practice on construction sites, trains and vehicles that are at least as good as statutory standards. We also make sure public announcements at stations are limited to the minimum required.

We have to balance the need to deliver improvement projects quickly with an obligation to reduce noise nuisance, especially at night, to residential and business neighbours, in partnership with local planning authorities.

Achievements

Construction activities are monitored carefully to ensure that agreed noise limits and operating hours are adhered to. We communicate plans for out-of-hours working to neighbours in advance.

We have recently seen a significant increase in construction works as part of our improvements, including for Crossrail and on major LU projects. This is in addition to our regular maintenance. While associated noise complaints often mirror the amount of construction work taking place, there has been a gradual decline in the number of noise complaints that we receive.

Much has been done to reduce noise from buses, trains, support fleet vehicles, rail and road surfaces, and we will continue to trial and use improved technology and materials. Measures have been implemented that help us minimise noise, especially during night-time engineering hours.

Objectives

- We will reduce noise and vibration from our vehicles and rolling stock
- We will reduce noise and vibration from our transport infrastructure and operations
- We will reduce noise and vibration from our maintenance and improvement programmes
- We will develop a target for surfacing the TLRN with lower-noise materials

Targets

- Reduce the number of noise-related complaints
- Respond to 100 per cent of noise and vibration complaints regarding rail services within 10 working days, and deal with 90 per cent of these within the target date
- Review the Section 61 (construction noise consenting) process and deliver improvements applicable to large, medium and small projects
- Ensure 90 per cent of buses in our fleet are at least two decibels quieter than the required legal limit by 2015

We will achieve these targets by:

- Continuing to test and use improved technology and materials, including targeted trials for solutions relevant to specific locations, with the aim of reducing noise impacts
- Ensuring effective communication with local residents and businesses potentially affected by noise or vibration from construction and maintenance activities
- Producing a regular summary of rail complaints by, for instance, service area
- Developing a tool showing areas with jointed track and a programme for replacement
- Completing the roll-out of quieter trains on all LU sub-surface lines by 2016

Measuring progress

We will measure and report annually on progress in achieving our noise targets and the associated delivery plans.



Our new trains are quieter for customers and neighbours

Materials and resources management

Using resources (including water) wisely and minimising waste

We aim to ensure that we use resources responsibly, by minimising our consumption of natural resources and encouraging the reuse and recycling of materials. The amount of waste produced increases or decreases in direct relation to the volume of maintenance or construction activities carried out as we expand our transport services. We intend to minimise waste as much as possible and reach a position where 'unwanted' materials are no longer referred to as 'waste', but are considered a potential resource.

Some of our businesses have a good track record in recycling up to 99 per cent of waste materials, but we can do more by sharing good practice across the entire organisation. While the amount of unwanted materials produced depends on the nature of the work being carried out, opportunities for designing-out waste and reusing and recycling apply to all construction projects.

Achievements

Our head offices achieve the Department for Environment, Food and Rural Affairs (Defra) good practice water consumption target of 6m³ per full time equivalent (FTE) person per year. They also achieve recycling rates of 62 per cent (working towards a target of 75 per cent).

We have standards promoting the use of sustainable drainage. There are also growing numbers of water recycling systems for train, bus and coach depots and stations. Green roofs have been installed at key head offices, depots and stations to help capture rainfall.

We have worked to achieve excellent local reuse of waste on construction or maintenance projects. For example, some of the work on the Metropolitan line embankments achieved 100 per cent reuse of waste materials.

Objectives

- We will continue to minimise generation of waste as far as possible
- For any waste still generated, we will develop a normalised target for reduction, for example, per project spend or passenger kilometre
- We will develop a target for reducing hazardous waste
- We will prioritise reuse of resources and maximise opportunities for recycling unavoidable waste, using innovation and new systems where practical
- We will optimise opportunities to recover energy from remaining waste
- We will continue to purchase reused materials or those with a high recycled content

Targets

- We will reuse, recover and recycle 99 per cent of non-hazardous waste, with interim targets of 30 per cent for recovery by 2031, in line with The London Plan

- Our head offices will aim to achieve a shift from current Defra good practice performance of 6m³ water consumption per FTE to Defra best practice of 4m³ per FTE

We will achieve these targets by:

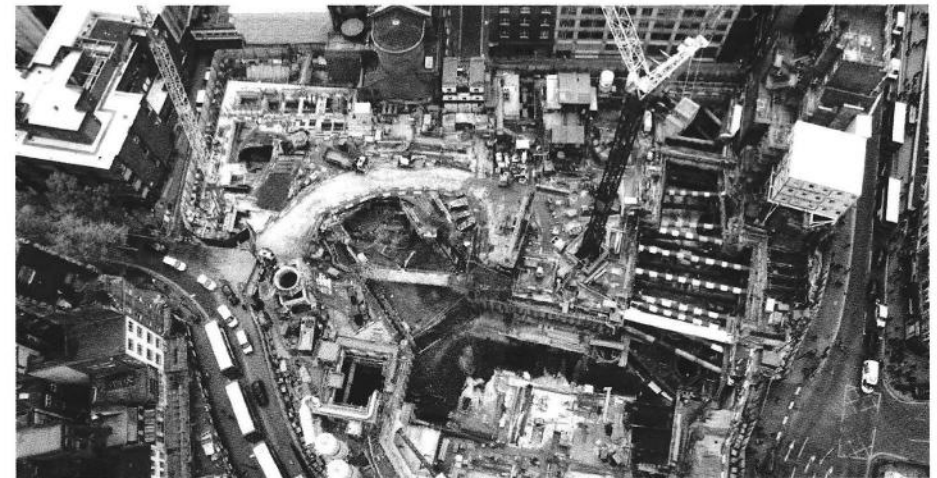
- Designing-out waste in construction and design
- Delivering a reduction programme for hazardous waste
- Continuing to invest in low-use and recycled water technologies
- Developing a system to quantify how much

we spend on having our waste treated, recycled and disposed of to help us target priorities for where to reduce waste

- Creating a waste exchange process for our organisation and contractors
- Requiring larger capital projects and programmes to achieve external sustainable building or infrastructure certification, equivalent to 'very good' or 'excellent' where possible

Measuring progress

We will measure and report annually on progress made towards achieving our targets and key programme delivery.



Our construction site at Tottenham Court Road is recycling and reusing all of its waste

Pollution prevention

Proactively managing activities to minimise and control pollution

Our activities require the use of materials and substances such as fuels, oils and solvents that could pose an environmental risk if not managed properly. Our HSEMS puts controls in place to prevent spills, leaks and incidents. There are opportunities to further prevent pollution through designing-out or minimising the use of harmful substances where possible, as well as good management practices.

Achievements

We have assessed the risk of pollution and ensured controls and contingencies are built into local emergency plans. Our HSEMS, along with training for staff and contractors, helps to encourage good management practices, but there is more that could be done to improve some of our operating premises, and those of our main suppliers. Opportunities to 'design-out' pollution will be taken, where possible, for new premises or during refurbishment.

Audits are carried out to check that procedures are being followed at our buildings, construction sites and main suppliers' operational premises. We follow an incident reporting procedure to establish trends and inform the audit and remedial works programme.

Objectives

- We will embed best practice to prevent pollution
- We will minimise the risk of pollution and ensure no pollution incidents occur as a result of our activities

Targets

- Zero pollution incidents each year

We will achieve this target by:

- Annually assessing and reducing risk for our highest risk sites
- Improving processes for reporting and investigating environmental incidents

Measuring progress

We will measure and report annually against our pollution prevention target and on progress with our delivery programmes.



■ We regularly deliver spill prevention training

The built environment

Respecting, protecting and improving the built environment and enhancing the travel experience and wider quality of life that London offers

We are helping to achieve the London-wide aim of improving the built environment, or urban realm. This contributes to the quality of life in the Capital and helps to create a strong sense of place, for example at interchanges.

Through sustainable design and construction, we can reduce exposure to pollution and noise and help to prevent crime. We aim to lead the way in designing measures to manage rainwater run-off and make the city increasingly resilient to more frequent extreme weather events.

In addition, many of our buildings, stations and assets have a strong heritage that contributes to London's identity, that we have a responsibility to preserve.

Achievements

Steps have been taken to enhance the pedestrian environment by removing clutter, recognising the needs of people with disabilities and improving the appearance of the urban realm. In addition to improving our own networks, we support work through the boroughs' Local Implementation Plans.

Huge efforts have been made to improve cycling infrastructure, stations and interchanges, which is helping to enhance London's reputation as a place to visit and do business. Working with other transport authorities and partners, we have achieved excellent design on schemes including Windrush Square in Brixton, Kingsland High Street in Hackney, the King's Cross terminal

and new Crossrail stations. Several projects have received honours, including Civil Engineering Environmental Quality Assessment awards and Building Research Establishment Environmental Assessment Method awards, in recognition of best practice.

We share experience and good practice with borough councils, housing associations and built environment professionals through guidance documents that make up the Streetscape toolkit and supporting Urban Design London to share best practice.

Objectives

- We will develop a target for the number of schemes achieving an improvement in urban realm scores
- We will improve the built environment to support an integrated, safe and seamless travel experience
- We will protect and restore our heritage assets
- We will embed sustainable design and maintenance solutions to enhance development of the built environment
- We will apply a holistic approach to design governance across the organisation
- We are recognised as a leader in design standards for the built environment

The natural environment

Respecting, protecting and enhancing the natural environment and its contribution to the quality of life

We will achieve these objectives by:

- Implementing a programme to update design and material guidance and, in 2014, we will publish:
 - Refreshed London cycling design standards
 - Refreshed Streetscape guidance for the TLRN
 - Guidance for the development of our stations and interchanges
 - Pedestrian Design Guidance
- Surveying, recording and understanding our assets and their heritage value, to identify opportunities for conservation and restoration

- Exploring and developing a method to measure improvements in the quality of the built environment starting in 2015
- Continuing to work with English Heritage, conservation officers and other interested stakeholders to share information and develop best practice
- Communicating the value of the built environment across our organisation

Measuring progress

We will measure and report annually on progress against our built environment activities and delivery plans.



☒ We deliver schemes to improve all aspects of the urban realm

We have significant land holdings across London, particularly along track sides and the verges of the TLRN. These spaces provide vital habitat for flora and fauna as well as green links through the Capital. The natural environment is a key contributor to improving the quality of life in London.

In addition, adding 'green infrastructure' can provide ecosystem services including ecological benefits, capturing polluting particulate matter, providing shading and cooling and reducing the speed and nature of run-off water.

The pressures on the natural environment continue to increase as there is more competition for space, both on and off our networks. We are also seeing a rise in pests, diseases and weed species such as Japanese knotweed.

Achievements

LU's Biodiversity Action Plan and the Green Estate Management Plan for the TLRN set out our plans to continue managing the natural environment responsibly, and to look for opportunities to enhance the value of our land as a habitat and resource to be enjoyed by residents and visitors.

We have robust processes in place to protect the natural environment and install green infrastructure whenever possible. These also help us to react quickly to threats, such as outbreaks of oak processionary moth caterpillars.

Objectives

- We will protect, manage and enhance the natural environment within our land holding
- We will develop the habitat and biodiversity potential of the natural environment
- We will develop a valuation system to measure losses and gains, building on the experience we gained when working with the boroughs to place a value on street trees
- We will manage the natural environment to help alleviate the impacts of extreme weather and climate change

Target

- We will measure and report on the percentage of our land holding with improved habitat and biodiversity quality

We will achieve this by:

- Publishing a refreshed Green Estate Management Plan for the TLRN
- Communicating the value of the natural environment across the organisation, including improving skills and competence relating to key biodiversity issues
- Developing a method to measure biodiversity losses and gains starting in 2015
- Surveying and recording the biodiversity value of our assets to identify priority areas for protection and enhancement as part of management plans



■ The Emirates Air Line

- Developing and improving plans to inform future management and enhancement of the natural environment and to help reduce the impacts of extreme weather events and climate change. Starting in 2015, this will include:
- Continuing to work with Natural England, the Forestry Commission, the London Tree Officers Association, RSPB and other interested stakeholders to share information and develop best practice

- Biodiversity protection and enhancement
- Succession planting
- Control of pest and diseases
- Control of harmful weeds and invasive plants

Measuring progress

We will measure and report annually on progress against our objectives and target for improved habitat and biodiversity quality.

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Appendix 3: Site Noise and Vibration Evaluation and Control

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Site noise and vibration evaluation and control

Introduction

Parts 1, 2 and 3 of this form must be completed when:

- 1) Local environmental aspect assessment (or risk assessment) identifies noise and vibration as a issue.
- 2) TfL Pathway Project Management Framework Applicability Questionnaire identifies noise and vibration as an issue. Update the Environmental Management Plan once this form has been completed.

If you answer yes to any questions in Part 1, you must complete Parts 2 and 3.

This form must be approved by the Project Manager (or equivalent in AP) and reviewed by an HSE Manager, External Relations team, Environment team and/or Noise and Vibration Team in Technical Services. Review by these teams helps ensure effective internal communications in advance of works.

Part 1: Site noise and vibration evaluation - completed by planners / designer of works

	Question	Yes	No	Notes
1	Are there residential properties, or other occupied premises near by?			
2	Will works take place at unsocial hours?*			
3	Have there been noise and vibration complaints from residents in the area before?**			
4	Will static or mobile plant, equipment or power tools be used on site?			
5	Will there be large-scale movement of plant, equipment, employees and associated vehicles?			
6	Will employees need to wear PPE to prevent hearing damage?			

* Unsocial hours are from 2000 to 0800 weekdays, 1300 Saturday to 0800 Monday morning and throughout Bank Holidays.

** check the [Noise Sensitivity Register](#) or the [LU GIS](#), and consult with the External Relations Team or Environment team, and the Noise and Vibration Team in Technical Services.

TfL Management System

Part 2: Works details – to be completed by planners / designers of works

1	Location of works	
2	Job reference number	
3	Job title	
4	Start date	
5	End date	
6	Hours of work	
7	Scope of work	
8	Activities Frequency of work, including frequency of noisy or vibration generating activities	
9	List of plant and equipment and tools to be used (Please provide as much information as possible, especially regarding the type and number of plant)	

Part 3: Noise and vibration evaluation – Section 61 consent? Project Manager to complete with HSE Adviser

	Question	Yes	No	Notes
1	Will disruptive works continue for 3 or more night?			
2	Will the works start in greater than 28 days time?			
3	Will noise and vibration be generated frequently or continuously?			
4	Will works noise and vibration add significantly to ambient levels?			
5	Will people hear or feel noise and vibration from outside the worksite?			
6	Are other works, including 3 rd party work, taking place near to your work site?			
7	Are there Local Authority issues or complaints relating to previous works at the site? **			
8	Does existing documentation give sufficient information on how you control noise and vibration to Best Practicable Means?			
9	Is Section 61 consent from the local authority needed? **			

TfL Management System

NOTE: If yes is answered to any questions above then it is likely a Section 61 consent will be needed. Consult your HSE Manager or Environment team and External Relations Team and Noise and Vibration Team in Technical Services

Approved by:



Name

Date

Signature

Project Manager

Reviewed by:

Name

Date

Signature

Position

Reviewed by:

Name

Date

Signature

Position



Appendix 4: Environmental Planned General Inspection Template

Appendix 4
ENVIRONMENTAL PLANNED GENERAL INSPECTIONS

Asset Area:		Location Inspected:	
PGI conducted by:		Date:	
Contact Number:		Conducted: E/H, T/H, Both	
Accountable DER:		PGI No.	PGI/APS/ / - .
Contact Number:			(e.g. PGI/APS/SYS/07-001)
DLO/Contractor:		SPC Name:	
Sub-Contractor:		Supplier Contact No.	

NOTE: Please obtain a copy of the PiCER and/or Station Entry Form, from the Station Supervisor, to show all the people involved with inspected works Site and attach to this PGI Form when complete.

Summary of Works: (Planned Works/Maintenance/Fault/Inspection/Survey/Project/Minor Works etc)

Refer to QUENSH for specific guidance to on-site requirements; refer to Site File for site specific risk assessments and method statements.

Instructions: YES: if satisfactory or assessment complete – NO: if unsatisfactory and list on sub-standards condition form – N/A: if not applicable. Note: if Document Reference Numbers are required and the space provided is insufficient, use the reverse of this page to record the details.
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QUENSH Clause / Legislation	QUESTION	YES (Y) NO (N) Or N/A	IF NO ENTER HAZARD CODE	REFERENCE NUMBERS, DATES DUE FOR RENEWAL, COMMENTS
1. WASTE & LITTER				
EPA 1990 Pt II	Is waste generated on site take to transfer station or back to works compound?			
	If compound are blank transfer/consignments notes available?			
	Are spoils re-used on site where ever possible to avoid land fill disposal?			
DOCR 1991	Does the Site File contain the Waste carriers Licence for removing waste from site?			
HWR & WEEE	Is Hazardous waste, Non-hazardous waste and WEEE being segregated and stored adequately for transport?			
SWMP 2007	Is the site waste management plan or arrangements available (if CDM notifiable project – F10 in site file?)			
	Does the site waste management plan include the arrangements for the removal of liquid waste & WEEE?			
Q-41	Is the site being well maintained and free from clutter, spills, litter and settled dust?			
2. NUISANCE (inc. dust, odours, noise, vibration, smoke, other emissions)				
EPA Pts 1+3 and NASN 1993	Are environmental nuisance's being controlled? <ul style="list-style-type: none"> • Dust Suppression/Damping Down • Noise screening/silencing • Vibration control • Position and intensity of lighting • Plant emissions (inc odour) 			

QUENSH Clause / Legislation	QUESTION	YES (Y) NO (N) Or N/A	IF NO ENTER HAZARD CODE	REFERENCE NUMBERS, DATES DUE FOR RENEWAL, COMMENTS
CoPA 1974	Is there a Section 60 Noise Abatement notice in force and being complied with?			
CoPA 1974	Do noise levels fall within any agreed Section 61 consents? <ul style="list-style-type: none"> Have all personnel been informed on the site – Personnel and Contractors that a section 61 COPA has been issued and the conditions that must be maintained? 			
HA 1980	Are pavements, roadways free from obstruction by unnecessary site activities (vehicles, materials etc)?			
ASBA 2003	Could activities be re-planned using best practicable means to reduce negative environmental impacts? <ul style="list-style-type: none"> Could include relocating activity or changing hours of work. 			
3. HAZARDOUS SUBSTANCES				
H&S@W Act 1974 - applied to EHS	Are potentially hazardous substances correctly identified & labelled? <ul style="list-style-type: none"> Are any of them classified as Environmentally Hazardous Substances? 			
	Does the method statement provide instruction on the correct use, storage and emergency procedures are in place in case of spillages and disposal etc			
	Are employees aware of the risks associated with the Hazardous substance in use? <ul style="list-style-type: none"> Training – are staff able to identify asbestos, Jap knot weed etc... have staff undergone any environmental awareness training. 			
COSHH 2002	Are all substances used on site accompanied with a COSHH data sheet? <ul style="list-style-type: none"> Please reference the document numbers 			
	Are staff aware of the COSHH Regulations?			
	Are hazardous liquids bunded? Bunds must hold <110% capacity of the containers when stored or in use.			
Q-44.2	Are hazardous materials being transported in accordance with the MS and/or MOM Licence?			
CAWR 2002	Has an Asbestos survey been conducted?			
	Are staff aware of the procedure if asbestos is discovered unexpectedly?			
4. ATMOSPHERIC POLLUTION				
RTR 2002	Are site/vehicle emissions to the external atmosphere being controlled? (dust, odours, noise, vibration, smoke, other emissions)			
5. POLLUTION OF WATER SYSTEMS & LAND CONTAMINATION				
WRA 1991 as am'd by EA 1995	Are fluid discharges, ingress and waterways being adequately managed?			
	Are receptors (e.g. drains) been identified and protected in the event of an emergency?			

QUEENSH Clause / Legislation	QUESTION	YES (Y) NO (N) Or N/A	IF NO ENTER HAZARD CODE	REFERENCE NUMBERS, DATES DUE FOR RENEWAL, COMMENTS
	Are spill kits available and ready for use?			
CoPA 1974 and EA am'd 1995	Are generators and compressors being used with drip trays and has the fuel feed cable from the fuel container armoured or protected?			
6. NATURAL RESOURCES & ENERGY CONSUMPTION				
DOCR 1991	Are water supplies, gas and electrical appliances turned off when not in use? • Temporary site accommodation in disused stations areas and porta-cabins etc...			
	Are vehicles, site plant and machinery turned off or isolated when not in use?			
	Is waste minimised by not over-producing site manufactured products E.g. cement, plaster etc...?			
7. HARM TO WILDLIFE, LANDSCAPE & HERITAGE				
WLCSA 1981	Are the local flora and fauna protected during access / egress to the site?			
	Have protected species or breeding birds / mammals been considered?			
TCPA 1990	If work is carried out on a listed building, has English Heritage or other LU been consulted and approved (including the fixing of temp' fencing, bunting, hoarding, lighting and signs)?			

END OF INSPECTION CRITERIA – PLEASE AGREE FINDINGS, THEN SIGN AND DATE THE PGI FORM

* - if applicable

Name of Inspector: (Print Name)		Contact number:	
Signature of Inspector:	Date:	
SPC/Site Manager: (Print Name)		Contact number:	
Signature of SPC/Site Manager:	Date:	

NOTE1: All Environmental PGI questions have been specifically designed to test compliance to the legislation applicable to Asset performance Stations activities, as shown in the AP Stations Legal Compliance Matrix MR-I-30810.

NOTE2: This form is a subset of corporate form MR-F-10548 and should be used for AP Stations E-PGI's

NOTE3: Hazard Codes are as defined in MR-Pr-10018 HSE Planned General Inspections

Hazard Codes

Hazard		
	Response	Definition
A1	IMMEDIATE ACTION REQUIRED Work must cease immediately and	Contravention of a legal requirement and/or Metronet / LU standards and/or practice likely to cause, death, permanent disability, loss of body part, extensive loss / impact on

	not restart until appropriate controls have been put in place to reduce the hazard classification to at least A2.	structure, equipment, materials, major pollution, destruction of local eco- systems, habitat or other environmental impact.
A2	The identified conditions should be rectified as soon as practicable in less than 14 days or as directed by the inspecting authority.	Contravention of Health and Safety and Environmental legal requirements and/or Metronet regulations, standards, procedures, industry standard good practices or failure to adequately contain and store material, fuels or waste.
B	The identified conditions should be rectified as soon as practicable in less than 28 days.	A condition or practice likely to cause injury, illness, pollution, destruction of local eco- systems, habitat, or extensive loss / damage to equipment, materials and structures. Less severe or disruptive than Class A1, or A2.
C	As agreed at time of inspection	Any condition or practice likely to cause minor (non disabling) injury, illness or non significant environmental impact if not acted upon as soon as practically possible.
GP	None Required	Good Practice – this information should be shared with other areas and contractors to promote learning and continuous improvement.
Obs	None Required	Observation – this finding is not a concern, but other areas maybe showing higher levels of compliance. You should seek to improve your methods.

Abbreviations used in this form:

Abbreviation	Full Legislation Title
EPA 1990	Environmental Protection Act 1990
D0CR 1991	Environmental Protection (Duty of Care) Regulations 1991
HWR 2005	Hazardous Waste Regulations 2005
WEEE 2006	Waste Electrical and Electronic Equipment Regulations 2006
SWMP 2007	Site Waste Management Plan Regulations 2008
Q	LUL QUENSH Conditions 12c clause xx
NSNA 1993	Noise & Statutory Nuisance Act 1993
CoPA 1974	Control of Pollution Act 1974
HA1980	Highway Act 1980 (& the New Roads and Street Works Act 1991)
ASBA 2003	Anti Social Behaviour Act 2003
H&S@W Act 1974 Applied to EHS	Health and Safety at Work etc Act 1974 (application to Environmentally Hazardous Substances)
COSHH 2002	Control of Substances Hazardous to Health Regulations 2002
CAWR 2002	Control of Asbestos at Work Regulations 2002
RTR 2002	Road Traffic Regulations 2002
WRA 1991 as amend by EA 1995	Water Resources Act 1991,as amended by the Environment Act 1995
FEPA 1985	Food and Environment Protection Act 1985
WLCSA 1981	Wildlife and Countryside Act 1981 (amended 1985 & 1991)
TCPA 1990	Town and Country Planning Act 1990
EP 2007	Environmental Permitting (England & Wales) Regulation 2007

Appendix 5: Waste Management Plan

Waste Management Plan (WMP) (Stages 3-6)

Purpose

To:

- ensure continuous compliance with legal duty of care obligations.
- improve how waste, and materials, is managed throughout the project and asset lifecycle; reducing whole life cost.
- meet TfL objectives and targets to reduce the amount of waste generated by projects and to reuse, recover and recycle 99% of non-hazardous materials by 2031, in line with the London Plan.

Applicability

This product must be completed for all programmes, projects, and delivery portfolios that produce waste.

Works with an Estimated Final Cost (EFC) greater than or equal to £250,000:

Must use SMARTWaste to document their WMP.

Work with an overall EFC greater than £250,000 but has multiple sites with a value less than £250,000 each; a high level programme, project/portfolio waste management plan, covering the scope of all works, rather than each individual site/item of work, must be developed.

Designers must capture decisions taken to minimise resource use and design out waste in a Design Waste Management Plan (DWMP). The DWMP must be passed onto the principal contractor (TfL or supplier) in an accessible manner, using template below.

Works with an EFC less than £250,000:

A separate SMARTWaste WMP is not required. All waste and materials management arrangements can be recorded in the design plans and construction phase Environmental Management Plan (EMP) for the works.

All TfL Facilities projects must use their template below to record and submit waste data.

Templates

- [Design Waste Management Plan](#)
- [SMARTWaste](#)

Issue No.: A5

Issue date: December 2015

Review date: December 2018

Waste Management Plan (WMP) (Stages 3-6)

Number PD0052
Issue no: A5
Issue date: September 2014

- [TfL Facilities: Small Projects Waste Proforma](#)
- Contractors are encouraged to use SMARTWaste template, for which a TfL project licence can be freely assigned. They can use their own waste management template as long as it delivers compliance and improved waste and materials management performance for both TfL and the contractor. The contractor's template must be based on best practice templates, e.g. the [Waste and Resource Action Programme \(WRAP\) WMP template](#), and [WRAP Netwaste Tool](#) or [BRE SMARTWaste tool](#).

Contents

- Content is defined by the templates.

Quality criteria

- Contractors, including designers, must be made aware of TfL's objectives and targets relating to waste and materials management during the procurement process. Contractors must be made aware that appropriate waste management targets will be set in the final contract to ensure compliance.
- A DWMP and WMP must be produced before works start on site.
- All design decision taken to reduce waste must be captured within the DWMP.
- The client, designer and principal contractor must sign the document before works commence on site to confirm quality of the document and declare that waste will be managed in line with their legal duty of care obligations.
- The document must be updated to reflect progress of the works (minimum every 6 months) for projects over £250,000 and for all projects on completion.
- The principal contractor must complete the document and return it once the project is complete and be involved with Lesson Learnt, where appropriate.
- Waste management data must be reported on a periodic basis, as instructed by the TfL client.

Further reference:

- [WRAP's Designing out Waste: a design team guide for Civil Engineering](#)
- [WRAP's Designing out Waste: a design team guide for Buildings](#)
- [WRAP's Netwaste Tool](#)
- Guidance is also contained in the templates above.

Document Management

WMP must be filed in accordance with the project filing structure described in the [Planning and Controls](#) handbook.

Waste Management Plan (WMP) (Stages 3-6)

Number PD0052
Issue no: A5
Issue date: September 2014

Roles and responsibilities

Responsible (Responsible for producing all or part of quality product)	Accountable (Accountable for ensuring timely delivery of quality product)	Consult (Must be consulted when product is being produced)	Inform (A copy of the signed-off product must be sent to)
Project Manager	Project Manager	Project Engineer Designer LU/LR/Corporate: HSE Manager or Environment Manager ST: Environment Manager	

Feedback

If you have any queries, feedback or improvement suggestions about this Product Description then please contact tflppm@tfl.gov.uk.

Document history

Revision	Date	Reason for Change	Author
A2	08/04/2013	Issued for use	IPPM
A3	05/12/2013	Amendments to product description and new template included	TfL HSE SIG
A4	03/09/2014	Amendments to include TfL Facilities works and new template included	TfL HSE SIG
A5	03/12/2015	DRACCT 03483	TfL HSE SIG

SCHEDULE 8: DEED OF NOVATION

THIS DEED is made [•] day of [•] 20[•]

BETWEEN:

TRANSPORT FOR LONDON or **TfL**, a statutory corporation established under the Greater London Authority Act 1999 of Windsor House, 42-50 Victoria Street, London SW1H 0TL (the "Company" which expression shall include its successors, transferees and assignees); and

[•] a company registered in [England and Wales] under number [•] and having its registered office at [•] (the "Supplier"); and

[•] a company registered in [England and Wales] under number [•] and having its registered office at [•] (the "New Company").

WHEREAS:

- (A) The Company has an agreement dated [•] and referenced [insert contract number] with the Supplier for the provision of [describe in brief the scope of work/services] (the "Contract").
- (B) The Company wishes to transfer [part of] its benefit and burden under the Contract to the New Company.
- (C) The Supplier and the New Company have agreed to such transfer upon the terms and conditions of this Deed.

IT IS AGREED AS FOLLOWS:

- 1. In this Deed:
 - 1.1 "Transfer Date" means [•].
- 2. With effect from the Transfer Date:
 - 2.1 the New Company undertakes to perform the obligations of the Company under the Contract and be bound by its terms in every way as if the New Company is and had been named at all times as a Party to the Contract in lieu of the Company;
 - 2.2 the Supplier releases and discharges the Company from all demands and claims whatsoever in respect of the Contract and accepts the liability of the New Company in relation to the Contract in lieu of the liability of the Company and agrees to be bound by the terms of the Contract in every way as if the New Company were and had been a Party to the Contract at all times in lieu of the Company;
 - 2.3 for the avoidance of doubt, it is hereby expressly agreed that:
 - (A) any and all rights, claims, counter-claims, demands and other remedies of the Supplier against the Company accrued under or in connection with the Contract prior to the date hereof shall be exercisable and enforceable by the Supplier against the New Company; and
 - (B) any and all rights, claims, counter-claims, demands and other remedies of the

BUNDLE 3 LOT 3: M&E & FABRIC (NON-LUL): EXECUTION VERSION

Company against the Supplier accrued under or in connection with the Contract prior to the date hereof shall be exercisable by the New Company against the Supplier.

- 2.4 the Company transfers its rights and obligations under the Contract to the New Company.
- 3. A person who is not a Party to this Deed may not enforce any of its terms by virtue of the Contracts (Rights of Third Parties) Act 1999.

Executed as a deed by the Parties and delivered on the date of this Deed

Executed as a deed by affixing the Common Seal of)
Transport for London)
in the presence of:)

.....
[Authorised Signatory]

Executed as a Deed by [SUPPLIER])
acting by).....
) Authorised Signatory
and).....
) Authorised Signatory

Executed as a Deed by [NEW COMPANY])
acting by).....
) Authorised Signatory
and).....
) Authorised Signatory

BUNDLE 3 LOT 3: M&E & FABRIC (NON-LUL): EXECUTION VERSION

SCHEDULE 9: FORM OF PARENT COMPANY GUARANTEE AND PERFORMANCE BOND

THIS GUARANTEE is made the _____ day of _____ 201[•]

BETWEEN:

- (1) [•] a company registered in England and Wales under number [•] and having its registered office at [•] (the “Guarantor”);
- (2) [•] a company registered in England and Wales under number [•] and having its registered office at Windsor House, 42-50 Victoria Street, London SW1H 0TL (the “Company” which expression shall include its successors in title and assigns); and
- (3) [•] a company registered in England and Wales under number [•] and having its registered office at [•] (the “Supplier”).

WHEREAS:

- (A) This Guarantee is supplemental to a contract (the “Contract”) for the carrying out of [•] at [•] made between (1) the Company and (2) the Supplier.
- (B) The Guarantor has agreed to guarantee to the Company the due and punctual performance of the Contract by the Supplier in the manner hereinafter appearing.
- (C) The Supplier is a party to this Guarantee in order to confirm its request that the Guarantor provide this Guarantee on the terms set out herein.

NOW IT IS HEREBY AGREED as follows:

1. The Guarantor unconditionally guarantees to the Company the proper and punctual performance and observance by the Supplier of all its obligations, warranties, duties, undertakings and responsibilities under the Contract and shall forthwith make good any default thereunder on the part of the Supplier and the Guarantor shall pay or be responsible for the payment by the Supplier to the Company of all sums of money, liabilities, awards, losses, damages, costs, charges and expenses that may be or become due and payable under or arising out of the Contract in accordance with its terms or otherwise by reason or in consequence of any such default on the part of the Supplier.
2. This Guarantee shall be a continuing guarantee and indemnity and accordingly shall remain in full force and effect until all obligations, warranties, duties and undertakings now or hereafter to be carried out or performed or observed by the Supplier under or arising out of the Contract have been duly and completely performed and observed in full.
3. The Guarantee is in addition to and not in substitution for any other security or warranty which the Company may at any time hold for the performance of any obligations, warranties, duties and undertakings under the Contract and may be enforced by the Company without first taking any proceedings or exhausting any right or remedy against the Supplier or any other person or taking any action to enforce any other security, bond or guarantee.
4. The Guarantor shall be under no greater obligation or greater liability under this

BUNDLE 3 LOT 3: M&E & FABRIC (NON-LUL): EXECUTION VERSION

Guarantee than it would have been under the Contract if it had been named as the Supplier in the Contract.

5. The obligations and liabilities hereunder shall remain in full force and effect and shall not be affected, lessened, impaired or discharged by:
 - (A) any alteration or variation to the terms of the Contract;
 - (B) any alteration in the extent or nature or sequence or method or timing or scope of the works, services or supplies to be carried out under the Contract;
 - (C) any extension of time being given to the Supplier or any other indulgence or concession to the Supplier or any forbearance, forgiveness or any other thing done, omitted or neglected to be done under the Contract;
 - (D) any other bond, security or guarantee now or hereafter held for all or any part of the obligations of the Supplier under the Contract;
 - (E) the release, modification, exchange or waiver of any such bond, security or guarantee;
 - (F) any amalgamation or reconstruction or dissolution including liquidation of the Supplier;
 - (G) the making of a winding up order, the appointment of a provisional liquidator, the passing of a resolution for winding up, liquidation, administration, receivership or insolvency of the Supplier;
 - (H) any legal limitation, disability or incapacity relating to the Supplier (whether or not known to the Guarantor);
 - (I) any invalidity in, irregularity affecting or unenforceability of the obligations of the Supplier under the Contract;
 - (J) the termination of the Contract; or
 - (K) anything the Company or the Supplier may do or omit or neglect to do including, but without limitation, the assertion of or failure or delay to assert any right or remedy of the Company or the pursuit of any right or remedy by the Company.
6. Until all amounts which may be or become payable and all liabilities, obligations, warranties, duties and undertakings in respect of the Supplier's obligations have been irrevocably paid, performed or discharged in full, the Guarantor shall not, after a claim has been made or by virtue of any payment, performance or discharge by it under this Guarantee:
 - (A) be subrogated to any rights, security or moneys held, received or receivable by the Company or be entitled to any right of contribution or indemnity in respect of any payment made or moneys received on account of the Guarantor's liability under this Guarantee;
 - (B) claim, rank, prove or vote as a creditor of the Supplier or its estate in competition with the Company unless the Company so directs; or

BUNDLE 3 LOT 3: M&E & FABRIC (NON-LUL): EXECUTION VERSION

- (C) receive, claim or have the benefit of any payment distribution or security from or on account of the Supplier, or exercise any right of set-off against the Supplier unless the Company so directs.
7. This Guarantee is irrevocable.
 8. The benefit of this Guarantee may be assigned by the Company at any time to any assignee of the benefit of the whole of the Contract. No further or other assignments shall be permitted.
 9. The Guarantor:
 - (A) gives the guarantee contained in this Guarantee as principal obligor and not merely as surety;
 - (B) agrees to indemnify the Company on written demand against any loss or liability suffered by it if any provision set out in the Contract guaranteed by the Guarantor becomes unenforceable, invalid or illegal, and
 - (C) waives any right it may have of first requiring the Company to proceed against, or enforce any other rights or security or claim payment from, any person before claiming from the Guarantor under this Guarantee.
 10. Until all amounts which may be or become payable in respect of the Supplier's obligations have been irrevocably paid in full by the Guarantor, the Company may:
 - (A) refrain from applying or enforcing any other moneys, security or rights held or received by the Company in respect of those amounts, or apply and enforce the same in such manner and order as it sees fit (whether against those amounts or otherwise) and the Guarantor shall not be entitled to the benefit of the same; and
 - (B) hold in a suspense account any moneys received from the Supplier on account of these Supplier's obligations or on account of the Guarantor's liability under this Guarantee.
 11. The Company is entitled to make any number of demands under this Guarantee.
 12. The invalidity, illegality or unenforceability in whole of or in part of any provisions of this Guarantee shall not affect the validity, legality and enforceability of the remaining part or provisions of this Guarantee.
 13. This Guarantee may be executed in any number of counterparts each of which shall be an original and all of such counterparts taken together shall be deemed to constitute one and the same instrument.
 14. No person other than the Company and its subsidiaries (as defined in Section 1159 of the Companies Act 2006) shall have any right to claim or remedy under or pursuant to this Guarantee and the provisions of the Contracts (Rights of Third Parties) Act 1999 are hereby excluded.
 15. This Guarantee, executed and delivered as a deed, shall be governed by and interpreted according to the laws of England and the Courts of England shall have exclusive jurisdiction save that the Company shall have the right to bring proceedings

BUNDLE 3 LOT 3: M&E & FABRIC (NON-LUL): EXECUTION VERSION

in the courts of any other jurisdiction in which any of the Guarantor's assets may be situated.

16. [For non-UK resident Guarantors only:

For the purposes of this Guarantee the Guarantor hereby appoints [•] of [•] [to be a London address] to accept service of process on its behalf, and service on the said [•] at the said address shall be deemed to be good service on the Guarantor; and the Guarantor hereby irrevocably agrees not to revoke or terminate such appointment).]

BUNDLE 3 LOT 3: M&E & FABRIC (NON-LUL): EXECUTION VERSION

Executed as a deed by the Parties and delivered on the date of this Guarantee

Executed as a Deed by [GUARANTOR])
acting by).....
) Authorised Signatory
and).....
) Authorised Signatory

Executed as a deed by affixing the Common Seal of)
[COMPANY])
in the presence of:–)

.....
[Authorised Signatory]

Executed as a Deed by [SUPPLIER])
acting by).....
) Authorised Signatory
and).....
) Authorised Signatory

SCHEDULE 10: FORM OF ON DEMAND PERFORMANCE BOND WITH APPENDIX 1

BOND

(Letterhead of Guarantor)

To: [Company name] (its successors in title and assigns)

Contract Bond No. [•]

1. Whereas our clients [•] (the "Supplier") have entered into a contract with you dated [•] (the "Contract") in respect of [•], we [•] (the "Guarantor", which term shall include our successors in title and assigns) hereby irrevocably undertake as a primary obligation upon first demand in writing made by you upon us from time to time or at any time to pay to you on each occasion the sum demanded by you within five (5) banking days upon service of your demand.

PROVIDED THAT:

1. This Bond shall come into force on the date hereof.
2. Any demand hereunder shall be substantially in the form of Annex 1 (Form of Demand from the Company to the Guarantor) to this Bond, and as between you and us the facts set out in that demand shall be: (a) deemed to be true and (b) accepted by us as conclusive evidence for the purposes of this Bond that the amount claimed in the demand is due and payable to you hereunder, it being our intention that the event upon which payment must be made hereunder is the service of your demand without any rights on our part to raise any objections, irrespective of the validity or the effectiveness of the Contract and the obligations arising thereunder and irrespective of the underlying facts or their significance under the Contract.

BUNDLE 3 LOT 3: M&E & FABRIC (NON-LUL): EXECUTION VERSION

3. All sums payable under this Bond shall be paid in pounds sterling to such bank account as may be specified in your demand in immediately available funds, free of any restriction or condition and free and clear of and without any deduction or withholding whether for or on account of tax, by way of set-off, or otherwise, except to the extent required by law.
4. For the purpose of this paragraph 5, the expression "Expiry Date" means [●]. Our liability hereunder shall be limited as follows:
 - (A) we shall have no liability in respect of any demand received after the Expiry Date; and
 - (B) in respect of a demand or demands received on or before the Expiry Date, our liability shall not exceed the aggregate sum of £ [Amount of Bond to be Confirmed].
5. Our obligations hereunder shall remain in full force and effect and shall not in any way be affected, reduced or discharged by:
 - (A) any alteration to the terms of the Contract made by agreement between you and the Supplier; and/or
 - (B) any defence, counterclaim, set-off or other deduction available to the Supplier under the Contract; and/or
 - (C) any alteration in the extent or nature or sequence or method or timing of the works/services to be carried out under the Contract; and/or
 - (D) any time being given to the Supplier or any other indulgence or concession to the Supplier or any forbearance, forgiveness or any other thing done, omitted or neglected to be done under the Contract; and/or
 - (E) any other bond, security or guarantee now or hereafter held by you for all or any part of the obligations of the Supplier under the Contract; and/or
 - (F) the release or waiver of any such other bond, security or guarantee; and/or
 - (G) any amalgamation or reconstruction or dissolution including liquidation or change in control or constitution of the Supplier; and/or
 - (H) the termination of the Contract; and/or
 - (I) any other event which might operate to discharge a guarantor at law or in equity.
6. Terms defined in the Contract and not otherwise defined herein shall have the same meaning in this Bond unless inconsistent with the context.
7. This Bond shall be governed by, and interpreted according to, the laws of England and the Courts of England shall have exclusive jurisdiction in relation to any claim, dispute or difference concerning this Bond and any matter arising from it save that you shall have the right to bring proceedings in the Courts of any other jurisdiction in which any of our assets may be situated.

BUNDLE 3 LOT 3: M&E & FABRIC (NON-LUL): EXECUTION VERSION

- 8. This Bond may be assigned or transferred without our prior consent to any member of the TfL Group. Any other assignment or transfer of this Bond by either Party shall require the consent of the other Party, such consent not to be unreasonably withheld or delayed.
- 9. This Bond may not be amended, varied or supplemented in any manner whatsoever without your prior written consent, other than in accordance with its express terms.
- 10. Each of the provisions of this Bond is severable and distinct from the others, and if at any time any such provision is or becomes ineffective, inoperable, invalid or unenforceable it shall be severed and deemed to be deleted from this Bond, and in such event the remaining provisions of this Bond shall continue to have full force and effect.
- 11. All bank charges and other fees payable in relation to or in connection with this Bond are for the account of the Supplier and you shall have no liability or responsibility therefor.
- 12. Except to the extent it is inconsistent with the express terms of this Bond, this Bond is subject to the ICC Uniform Rules for Demand Guarantees, 2010 revision, ICC Publication No. 758.

Executed as a deed by the Parties and delivered on the date of this Bond.

Executed as a Deed by [GUARANTOR])
acting by).....
) Authorised Signatory
and).....
) Authorised Signatory

Executed as a deed by affixing the Common Seal of)
[COMPANY])
in the presence of:—)
.....
[Authorised Signatory]