London Borough of Hounslow

Hounslow Multi-Agency CRR

April 2016

Document History

Review Date	Version	Summary of Changes	Amended By
September 2011	Draft 0.1	Creation of the Draft v0.1 of the Hounslow Multi Agency Community Risk Register	Twm Palmer (CPU)
March 2013	Draft 0.3	Environment Agency and British Red Cross Amendments	Ben Axelsen (CPU)
April 2013	Draft 0.4	Final review of risk (impact and likelihood) ratings based on Hounslow Resilience Forum suggestions and comments. For agreement of the Hounslow Resilience Forum, sign off 11/04/2013	Twm Palmer (CPU)
April 2013	1.0	Final version signed off by the Hounslow Resilience Forum	Ben Axelsen (CPU)
August 2013	1.1	Review of Risk Numbers and Colours. Amendments from ToR and COMAH site update	
April 2016	2.0	Colours, stated purpose of the CRR, limitations of risk assessment, design, local history of emergencies, withholding information, other forms of communication, public involvement, contact details	Fiona Hodge (CPU), Miguel Almeida, Ahsan Shaikh, Shelby McQueston (WPI)

Amendments

Version	Details of the Amendment	Page No	Amended By	Date
Draft 0.1	Creation of the Draft v0.1 of the Hounslow Multi-Agency Community Risk Register	All	Twm Palmer (CPU)	September 2011
Draft 0.2	Addition of provisional likelihood, impact and risk ratings	9-27	Twm Palmer (CPU)	March 2012
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1.4	Amendments made to risk ratings following Sept 14 RAWG meeting	All	Fiona Hodge	November 2014
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1.6	Amendments made to risk ratings following March 15 RAWG meeting	All	Fiona Hodge	May 2015
1.7	Amendments made to risk ratings following June 15 RAWG meeting	All	Fiona Hodge	August 2015
1.8	Amendments made following LFB Risk Assessment meeting	All	Fiona Hodge	December 2015
2.0	Colours, stated purpose of the CRR, limitations of risk assessment, design, local history of emergencies, withholding information, other forms of communication, public involvement, contact details	All	Fiona Hodge	April 2016

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Document Security Markings

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Notes

The Hounslow Risk Register is collectively owned and maintained by Category 1 and 2 Responders within the London Borough of Hounslow, as defined by the groups Terms of Reference.

Exclusion Notes

The main text section of this Hounslow Multi-Agency Community Risk Register only covers and talks about non-malicious events (i.e. hazards occurring in the borough and the emergencies that the borough is susceptible to) rather than threats (i.e. terrorist incidents)*

**This does not mean that the Hounslow Resilience Forum does not cover these and related threats/risks within its risk assessment work, but given the sensitivity of the information, specific details about these will not be made available in the public version of the risk register as a matter of Local and National Security.*

Hounslow Resilience Forum Representatives

Category I Responders

- The London Borough of Hounslow Contingency Planning Unit (CPU)
- Metropolitan Police Service (MPS)
- London Fire Brigade (LFB)
- London Ambulance Service (LAS)
- NHS England
- Public Health England (PHE)
- West London Mental Health Trust (WLMHT)
- West Middlesex University Hospital (WMUH)
- Hounslow and Richmond Community Healthcare (HRCH)
- Environment Agency (EA)

Category II Responders

- Utility Companies: Electricity, Gas, Water and Sewerage
- NHS Clinical Commissioning Groups
- Public Communications providers (fixed and mobile)
- Transport for London (TfL)
- Network Rail
- Train Operating Companies
- Highways Agency
- BAA Heathrow
- Port of London Authority
- Health and Safety Executive (HSE)

Existing Non-Category I or II Hounslow Resilience Forum Representatives

- London Resilience Team
- British Army
- Royal Air Force (RAF)
- Voluntary Sector
- Faith Community Representatives
- Others

Secretariat

- The London Borough of Hounslow Contingency Planning Unit, Chair of the Hounslow Resilience Forum

Introduction

Hounslow's Community Risk Register (CRR), divided into a Community Resilience document and a Multi-Agency CRR, provides information on the various emergencies that could happen in Hounslow. Together with an assessment of how likely they are to happen and the impacts if they do.

The purpose of the Hounslow public CRR is to educate people about the risks that could occur where they live, so they can think about what they are able to do to be better prepared for emergencies.

National Risk Register

The National Risk Register was first published in 2008 and provides updated information on the types of civil emergencies people in the UK could face over the next five years. The latest edition was published in 2015.

London Risk Register

The London Risk Register is used by the London Resilience Partnership to help to prioritise resilience activities towards higher rated risks. It looks at nationally recognised risks and how these translate into the risk faced by London. The latest edition of the London Risk Register was published in 2014.

West London Local Resilience Forum Community Risk Register

The risk assessment work now undertaken by the London Resilience Partnership used to be undertaken by London Sub Regional Resilience Forums – Central London, North Central London, North East London, South East London, South West London and West London Resilience Forums.

Hounslow Resilience Forum

The Hounslow Resilience Forum (HRF) is a partnership, made up of organisations that have a responsibility, under the Civil Contingencies Act, 2004, to prepare for and respond to major incidents in Hounslow. The Forum includes the emergency services, local authorities, the Environment Agency, and health agencies along with voluntary agencies. Under the Civil Contingencies Act (2004) every local resilience forum of the United Kingdom is required to establish a resilience forum.

Hounslow Community Risk Register

The Hounslow Community Risk Register is divided into two different versions: a technical, Multi-Agency CRR for the Hounslow Resilience Forum, and a Community Resilience document for the community. Members of the community who wish to know more about the Community Risk Register can gain access to the Multi-Agency CRR on www.hounslow.gov.uk/resilience_fourm

- ### Multi-Agency CRR
  This document looks at all the risks identified in the London Risk Register and how these translate into the risk faced by the London Borough of Hounslow. In addition, it provides an assessment of the likelihood and impact of these scenarios for the London Borough of Hounslow.

- ### Community Resilience
  This document looks at the top risks faced by the London Borough of Hounslow, and has suggestions on what members of the community should do in case of an emergency.

The risks included in the two versions of the Hounslow Community Risk Register represent ‘reasonable worst case scenarios’ and their inclusion in the register does not mean that they are going to happen, or that if they did do that they would be as serious as the descriptions included here. ‘Reasonable worst case scenarios’ are nationally developed and informed by historical and scientific data, modelling, trend surveillance and professional expert judgement.

Risk assessment and risk management, however, are mostly subjective. This means that the exposure or non-exposure of the committee working to assess risks plays a crucial role in determining how the CRR would eventually look like, i.e. how the public will be informed of emergencies.

Furthermore, in this modern era of environmental changes, Hounslow might be vulnerable to a few additional environmental risks that have not been included in this risk register solely because there is no information available on these risks as of yet.

Risks are assessed by the Hounslow Resilience Forum Risk Assessment Working Group (RAWG). The RAWG meets quarterly to assess local risks and this information is used to provide local consistent planning assumptions, prioritise work programmes, training, exercising and plan updates and inform both HRF partners and the public of local risks.

Contextualisation Statement

The London Borough of Hounslow is part of the West London Sub Regional Resilience Forum area which also comprises of the London Boroughs of Brent, Ealing, Hammersmith & Fulham, Harrow and Hillingdon.

Overview

The London Borough of Hounslow is an outer London Borough which is bordered by the London Boroughs of Hillingdon, Ealing, Hammersmith & Fulham and Richmond and also Surrey to the South West. The Borough covers approximately 37km^2 and stretches from the boundary with Heathrow Airport in the West to Chiswick in the East. The total population of Hounslow is approximately 253,957 as of the 2011 census.

Transport

The London Borough of Hounslow has both excellent and major transport routes. The A4 and the M4 run through the Borough and the area has a total of eight underground stations and seven mainline railway stations. There is also Heathrow International Airport bordering the Borough which means Hounslow forms part of London's international gateway.

Social Factors

Between 2001 and 2011 the population of Hounslow increased by 17.6%. This was the fifth highest rate of growth within England and Wales. The London Borough of Hounslow has an increased number of working aged adults and a lower than average elderly population.

Hounslow is a culturally diverse community with almost half of the population coming from ethnic minority communities. Hounslow also boasts a total of 140 spoken languages.

Economic Factors

The Borough contains several major shopping areas (i.e. Hounslow, Chiswick, Feltham), along with leisure facilities, business and light industrial premises and Brentford Football Club.

The Brentford golden mile provides the location for both national and international HQ's including Sky TV and GlaxoSmithKline.

Industry and Environment

Hounslow has one top tier COMAH site within the Borough:

- Esso West London Oil Terminal

There are also two top tier COMAH sites in neighbouring Borough Hillingdon which have to be considered when planning for Hounslow:

- Heathrow Hydrant Operating Company (HHOpCo)
- Lufthansa Technik Landing Gear Services

Weather and Flooding

The London Borough of Hounslow enjoys similar weather conditions to the rest of the London region (i.e. a slight urban warming/sheltered factor compared with the South East) with no known local variations. The impact of severe weather tends to make itself felt on the transport network where, due to density of use, local peaks, or other difficulties (of snow, for example) can lead to “gridlock” on the roads given the high density factors noted in the Transport section.

There are three main rivers within the Borough; the River Thames which is tidal along its length and the Rivers Crane and Brent which flow into the Thames along with the Grand Union Canal.

There is also one reservoir within the Borough which falls under the Reservoirs Act, 1975:

- Osterley Middle Lake, Osterley Park

Other reservoirs outside the Borough could also have an effect on the Borough:

- Queen Mary Reservoir, Sunbury-On-Thames
- Staines Reservoir, Staines-Upon-Thames

Human Disease

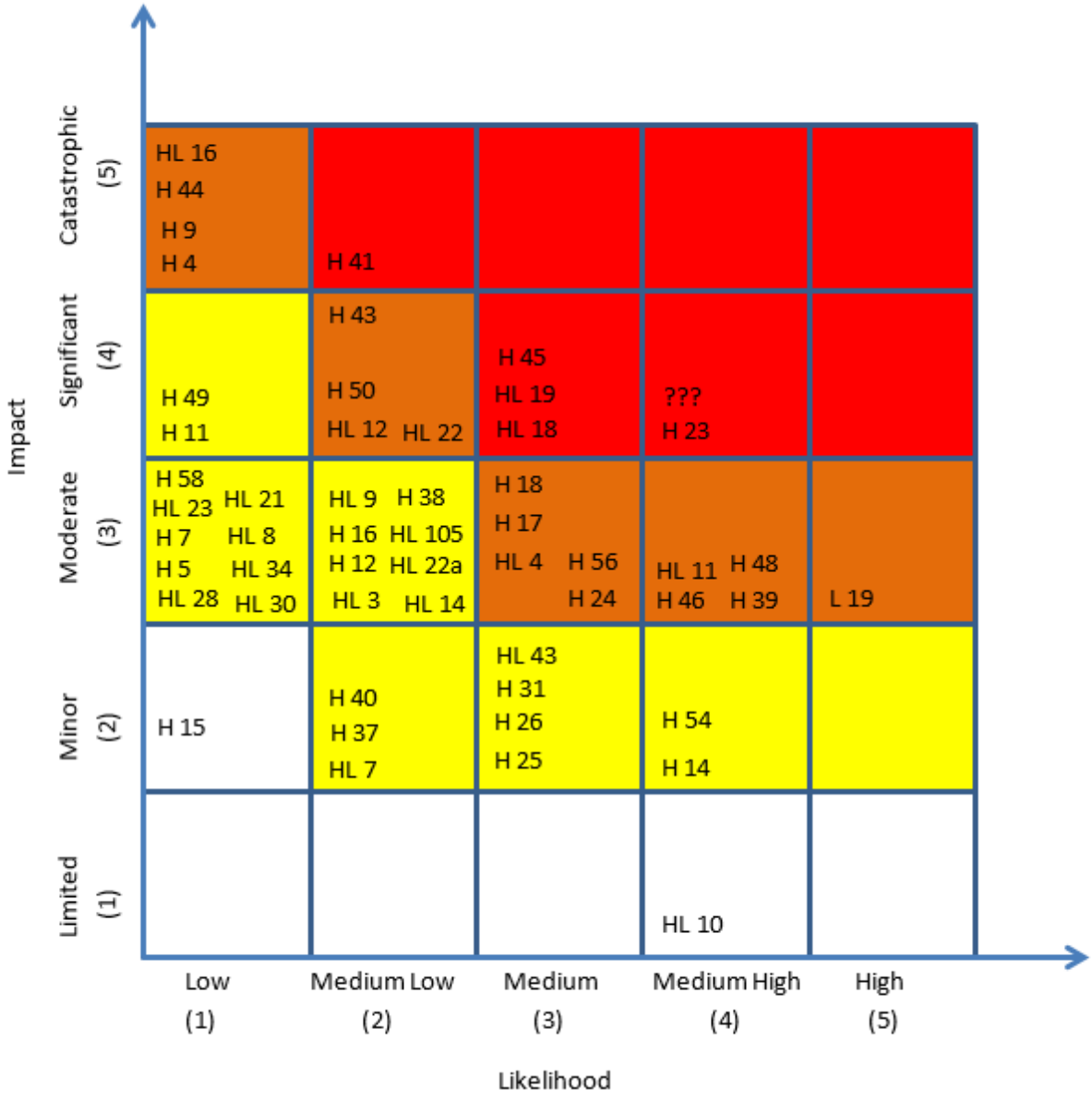
Special factors which have to be taken into account for not only Hounslow but for West London as a whole with regard to human disease are mainly around Heathrow's role as 'Gateway to Britain' for most people from far-flung locations historically associated with pandemics.

Public Protest, Industrial Action, Community Cohesion, International Events

The potential for industrial action within the London Borough of Hounslow, along with the rest of London, is high and in recent month's industrial action from both the Rail, Maritime and Transport (RMT) Union and the Fire Brigade has been staged.

The history of public protest in the London Borough of Hounslow has tended to be relatively small-scale with larger protests almost invariably taking place in Central London.

Hounslow Risk Matrix



Descriptions of the individual risks mentioned on the risk matrix above can be found on the next two pages.

Risk Summary Table

Risk Ref.	Hazard Sub-Category	Page
H 23	Influenza Type Disease (Pandemic)	46
???	Loss of utilities	51
H 45	Technical failure of regional electricity network	50
HL 18	Local/Urban flooding fluvial or surface runoff	38
HL 19	Flooding: Local fluvial flooding	39
H 41	Technical failure of national electricity network (Blackstart)	50
L 19	Flooding from other sources	40
H 46	Biological substance release during an unrelated work activity/industrial process (e.g. Legionella)	25
HL 11	Railway accident	33
H 39	Failure of water infrastructure or accidental contamination (non-toxic)	49
H 48	Heat Wave	37
HL 4	Major pollution of controlled waters	28
H 17	Storms and gales	36
H 18	Low temperatures and heavy snow	36
H 24	Emerging infectious diseases	46
H 56	Severe Space Weather	41
HL 12	Localised accident involving transport od hazardous chemicals	34
H 50	Drought	40
H 43	Telecommunication infrastructure – human error	50
HL 22	Building collapse	42
H 4	Fire or explosion at a fuel distribution site or site storing flammable and/or toxic liquids under atmospheric pressure	19
H 9	Large toxic chemical release	22
H 44	Major reservoir dam failure/collapse	44
HL 16	Local coastal/tidal flooding	37
H 26	Zoonotic notifiable animal diseases (e.g. highly pathogenic avian influenza (HPAI) rabies and West Nile virus	47
H 31	Significant or perceived significant constraint on fuel supply at filling stations	47
HL 43	Plant Disease	29
HL 7	Industrial explosions and major fires	18
H 37	International security incident resulting in influx of British Nationals who are not normally resident in the UK	48
H 11	Accidental release of radioactive material from incorrectly handled or disposed of sources	23
H 49	Loss of drinking water supplies due to a major incident affecting infrastructure	51
H 7	Explosion at a high pressure natural gas pipeline	21
H 5	Fire or explosion at an onshore fuel pipeline	21
HL 8	Fire, flooding, stranding or collision involving a passenger vessel in or close to UK waters or on inland waterways, leading to the ship's evacuation	30
HL 34	Fire, flooding or collision involving a passenger vessel in UK inland waterways, leading to the ships full/partial evacuation at sea	29

HL 30	Localised explosion at a natural gas main	21
HL 28	Localised fire or explosion at the fuel distribution site or tank storage of flammable and/or toxic liquids	19
H 12	Biological substance release from facility where pathogens are handled deliberately (e.g. pathogen release from contaminated laboratory)	23
HL 3	Localised industrial accident involving small toxic release	22
HL 9	Aviation accident	32
HL 14	Local (road) accident involving transport of fuel/explosives	35
HL 22a	Large building collapse	43
HL 105	Complex built environments	45
H 16	Aviation accident over a semi-urban area	31
H 38	Technical failure of critical upstream oil/gas facility, gas import pipeline terminal, or Liquefied Natural Gas(LNG) import reception facility, leading to disruption in upstream oil and gas production	48
HL 21	Land movement (i.e. caused by tremors or landslides)	42
HL 23	Bridge collapse	44
H 58	Forest or grassland fire	29
H 14	Major contamination incident with widespread implications for the food chain	26
H 54	Disruption to aviation as a result of volcanic ash	42
H 25	Non-zoonotic notifiable animal diseases e.g. foot and mouth disease	47
H 40	No notice loss of significant telecommunications infrastructure in a localised fire, flood or gas incident	49
HL 10	Local accident on motorways and major trunk road	32
H 15	Maritime pollution (e.g. affecting tidal River Thames)	26

Borough Risk Register

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
INDUSTRIAL ACCIDENTS AND ENVIRONMENTAL POLLUTION							
HL 7	Industrial explosions and major fires	**Outcome Description** Up to 1km around site, causing up to 10 serious injuries and up to 10 casualties. Explosions would cause primarily burn, crush, cuts and bruise-type injuries. Potential environmental contamination and impact, affecting air, land, water, animal welfare, agriculture and waste management. May require remediation and/or decontamination. **Variation & Further Information** Evenly distribution across the Borough **Past Events** 16th December 2013: A large residential fire occurred in a block of flats as a result of a lit tea-light being left unattended in the house of a vulnerable person. This resulted in one fatality and the evacuation of 25 residents to a Rest Centre. On the same day, a large 6-pump fire broke out in Goddard's Furniture shop on the second floor. Thirty-five fire-fighters were deployed to the scene and the fire was brought under control.	2 (Medium Low)	2 (Minor)	Medium	London Fire Brigade (LFB)	Control of Major Accident Hazards (COMAH) Regulations 1999 Regulatory Reform (Fire Safety) Order 2005 Building design and fire protection systems to prevent or limit the spread of fire Emergency Services and other responder specialist resources

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
H 4	Fire or explosion at a fuel distribution site or site storing flammable and/or toxic liquids under atmospheric pressure	**Outcome Description** Up to 3km around site causing up to 150 fatalities and 2000 casualties. Potential short-term disruption to air transport fuel supply. Excessive demand on core health services and social care. Closure of roads in locality. Potential environmental contamination and impact, affecting air, land, water, animal welfare, agriculture and waste management. May require remediation and/or decontamination.	1 (Low)	5 (Catastrophic)	High	London Fire Brigade (LFB)	Control of Major Accident Hazards (COMAH) Regulations 1999 The Dangerous Substances and Explosive Atmosphere Regulations 2002 Petroleum Regulations Regulatory Reform (Fire Safety) Order 2005 Site Operators on-site contingency plans Emergency Services specialist resources
HL 28	Localised fire or explosion at the fuel distribution site or tank storage of flammable and/or toxic liquids	**Outcome Description** Up to 1km around the site, causing up to 15 fatalities and 200 casualties. Potential environmental contamination and impact, affecting air, land, water, animal welfare, agriculture and waste management. May require remediation and/or decontamination. **Variation & Further Information** Impact on environment, including widespread impact on air quality	1 (Low)	3 (Moderate)	Medium	London Fire Brigade (LFB)	Control of Major Accident Hazards (COMAH) Regulations 1999 The Dangerous Substances and Explosive Atmosphere Regulations 2002 Petroleum Regulations

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
							Regulatory Reform (Fire Safety) Order 2005 Site Operators on-site contingency plans Emergency Services specialist resources
H 5	Fire or explosion at an onshore fuel pipeline	**Outcome Description** Up to 1km around site causing up to 100 fatalities and up to 500 casualties. Potential environmental contamination and impact, affecting air, land, water, animal welfare, agriculture and waste management. May require remediation and/or decontamination. **Variation & Further Information** A release point close to a populated (i.e. urban/residential) area. Impact on environment including persistent/widespread impact on air quality.	1 (Low)	3 (Moderate)	Medium	London Fire Brigade (LFB)	Requisitioned Land and War Works Act 1948 The Land Powers (Defence) Act 1958 Shell-Mex and BP (London Airport Pipeline) Act 1959 Esso Petroleum Company Act 1961 Pipelines Act 1962 Pipeline Safety Regulations 1996 Control of Major Accident Hazards (COMAH) Regulations 1999

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
							Emergency Services specialist resources
H 7	Explosion at a high pressure natural gas pipeline	**Outcome Description** Local to site, causing up to 200 fatalities and up to 200 casualties. Potential environmental contamination and impact, affecting air, land, water, animal welfare, agriculture and waste management. May require remediation and/or decontamination. **Variation & Further Information** Risk based on the release point proximity to populated (i.e. urban) area. Impact on environment, including persistent/widespread impact on air quality.	1 (Low)	3 (Moderate)	Medium	London Fire Brigade (LFB)	Pipeline Safety Regulations 1996 Regulatory and industry measures including provision of maps for evacuation Emergency services and other responder specialist equipment
HL 30	Localised explosion at a natural gas main	**Outcome Description** Local to site, causing up to 200 fatalities and up to 200 casualties. Potential environmental contamination and impact, affecting air, land, water, animal welfare, agriculture and waste management. May require remediation and/or decontamination. **Variation & Further Information** Risk based on the release point proximity to populated (i.e. urban) area. Impact on environment, including persistent/widespread impact on air quality. **Past Events** 28th October 2013: The explosion on Bath Road was a large gas explosion causing the destruction of 5 terraced houses, two fatalities and the evacuation of around 45 people. The explosion was caused as a result	1 (Low)	3 (Moderate)	Medium	London Fire Brigade (LFB)	Pipeline Safety Regulations 1996 Regulatory and industry measures including provision of maps for evacuation Emergency services and other responder specialist equipment

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
		of a tree that was felled during the St. Jude's Storm on the evening of the 27/10/2013 rupturing a gas pipe beneath a residence.					
H 9	Large toxic chemical release	**Outcome Description** Up to 3km from the site of toxic chemical release causing up to 50 fatalities and up to 2000 casualties. Potential environmental contamination and impact, affecting air, land, water, animal welfare, agriculture and waste management. May require remediation and/or decontamination. Excessive demands on local healthcare in short and long term. Risk to water supplies and contamination of land. **Variation & Further Information** E.g. chlorine release or large industrial complex or bulk storage of chemicals near to a populated area (i.e. urban) area.	1 (Low)	5 (Catastrophic)	High	London Fire Brigade (LFB)	Control of Major Accident Hazards (COMAH) Regulations 1999 Regulatory Reform (Fire Safety) Order 2005 Emergency Services and other responder specialist equipment London Resilience Partnership Plans
HL 3	Localised industrial accident involving small toxic release	**Outcome Description** Up to 1km from site causing up to 10 fatalities and up to 100 casualties. Potential environmental contamination and impact, affecting air, land, water, animal welfare, agriculture and waste management. May require remediation and/or decontamination. **Variation & Further Information** Possible clustering of sites in industrial areas **Past Events** 24th August 2013: Spillage of 200 litres of a powerful disinfectant (30% Sodium Hydroxide) took place in the yard of the Dairy Crest Ltd facility. The London Fire Brigade subsequently informed LBH BECC that no	2 (Medium Low)	3 (Moderate)	Medium	London Fire Brigade (LFB)	Control of Major Accident Hazards Regulations 2005 (COMAH) Regulatory Reform (Fire Safety) Order 2005 London Resilience Partnership Plans

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
		council assistance was necessary.					
H 11	Accidental release of radioactive material from incorrectly handled or disposed of sources	**Outcome Description** Up to 5 fatalities and up to 100 contaminated persons requiring medical monitoring. Many worried well may present in hospitals. Radiation concentration near source, potentially over kilometres. Potential environmental contamination and impact, affecting air, land, water, animal welfare, agriculture and waste management. May require remediation and/or decontamination. **Variation & Further Information** Assume radioactive material is a medical source from radiotherapy equipment.	1 (Low)	4 (Significant)	Medium	Environment Agency	Radioactive Substances Act 1993 High Activity Sealed Source Regulations 2005 Arrangements for safe handling and disposal of radioactive sources Radiation detectors at high risk sites Environment Agency inspections of all major sources Emergency Services specialist resources London Resilience Partnership Plans
H 12	Biological substance release from facility where pathogens are	**Outcome Description** Up to 10 fatalities and serious injuries or off-site impact causing up to 1,000 casualties. Potential environmental contamination and impact, affecting air, land, water, animal welfare, agriculture and waste management.	2 (Medium Low)	3 (Moderate)		Health	Animal Health Act 1981 Specified Animal Pathogens Order 1998

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood / Impact / Risk Rating	Lead Responsibility	Controls In Place
	handled deliberately (e.g. pathogen release from contaminated laboratory)	May require remediation and/or decontamination. **Variation & Further Information** Assume release in urban area. E.g. SARS.	Medium		Health & Safety at Work etc. Act 1974 Control of Substances Hazardous to Health Regulations 2000 Management of Health & Safety at Work Regulations 1999 Reporting of Injuries, Diseases and Dangerous Occurrences Regulations Carriage of Dangerous Goods (classification, packaging and labelling) Regulations Genetically Modified Organisms (Contained Use) Regulations 2000 Regulation, audit and enforcement of legislation by HSE London Resilience Partnership Plans

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
H 46	Biological substance release during an unrelated work activity/industrial process. (e.g. Legionella)	**Outcome Description** Up to 10 fatalities and serious injuries or off-site impact causing up to 1,000 hospital admittances. **Variation & Further Information** Specifically related to Legionella release from industrial process. Inadvertent Legionella contaminant of wet cooling systems such as cooling towers and evaporate condensers, air conditioning systems, humidifier and other industrial air scrubbers.	4 (Medium High)	3 (Moderate)	High	Health	Health & Safety at Work Act etc 1974 Control of Substances Hazardous to Health Regulations 2000 Management of Health & Safety at Work Regulations 1999 Reporting of Injuries Diseases and Dangerous Occurrences Regulations HSE Approved Code of Practice and Guidance 2001 (not fully complied with) HSE and Local Authority inspections of cooling towers (not uniform) London Resilience Partnership Plans

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
H 14	Major contamination incident with widespread implications for the food chain, arising from; i) Industrial accident; ii) Contamination of animal feed; iii) Incidents arising from production process.	**Outcome Description** Food production / marketing implications depending on scale and area affected. Potential direct animal and consumer health effects. Consumer confidence affected leading to lost markets, or panic buying. **Variation & Further Information** E.g. Dioxin animal feed contamination, resulting in contaminated animals and products.	3 (Medium)	2 (Minor)	Medium	Local Authority	EC Directives and Regulations Regulation (EC) 852/2004 Regulation (EC) 853/2004 Regulation (EC) 854/2004 Food Safety Act 1990 Imports monitored Local Authority Environmental Health Sampling Public Health England monitoring and surveillance Food Standards Agency plans
H 15	Maritime Pollution (e.g. affecting tidal River	**Outcome Description** Release of 100,000 tonnes of crude oil into sea polluting coastal and tidal areas. Potential environmental contamination and impact, affecting air, land, water,	1 (Low)	2 (Minor)		Maritime & Coastguard Agency	Dangerous Substances in Harbour Areas Regulations 1987

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood / Impact / Risk Rating	Lead Responsibility	Controls In Place
	Thames)	animal welfare, agriculture and waste management. May require remediation and/or decontamination. **Variation & Further Information** E.g. Oil super tanker sinks in Thames Estuary, with strong north-easterly winds and tide flowing up the Thames estuary.	Low		Merchant Shipping (Oil Pollution Preparedness, Response and Cooperation Convention) Regulations 1998 Port State Control checks coordinated in European waters All vessels navigating on the tidal Thames required PLA licence PLA Vessel Traffic Service National Contingency Plan for Marine Pollution from Shipping and Offshore Installations (2000) Oil Spill Contingency Plan Guidelines for Ports, Harbours & Oil Handling Facilities Specialist equipment for response

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
HL 4	Major Pollution of controlled waters	**Outcome Description** Pollution incident impacting upon controlled waters (e.g. chemical spillage, untreated sewage). Affecting water quality, major aquatic damage and serious damage to human health. Potential environmental contamination and impact, affecting air, land, water, animal welfare, agriculture and waste management. May require remediation and/or decontamination.	4 (Medium High)	3 (Moderate)	High	Environment Agency	Environment Act 1995 Water Resources Act 1991 Environmental Protection Act 1990 Pollution Prevention and Control Act 1999 Control of Major Accident Hazards Regulations 1999 The Environmental Permitting Regulations (England and Wales) 2010 Groundwater Regulations 1998 Anti-Pollution Works Regulations 1999 Inspections and compliance monitoring undertaken by appropriate regulatory body 24 hour incident

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
							hotline and response system Pollution control equipment and resources
H 58	Forest or grassland fire	**Outcome Description** Forest or grassland fire resulting in up to 50 hectares being affected. Evacuation of up to 100 residential homes required. Up to 5 fatalities and 20 casualties. Potential environmental impact affecting air.	1 (Low)	3 (Moderate)	Medium	London Fire Brigade (LFB)	London Fire Brigade borough specific rural strategies Specialist firefighting equipment and resources
HL 43	Plant Disease	**Outcome Description** Major outbreak of plant disease. Damage to native plants & ecosystems, or agricultural/horticultural crops (with knock on effects to rural economy should diseases become widespread within the tree population). Any significant loss of tree cover would have negative consequences on air pollution, urban heat island effects and surface water flooding.	3 (Medium)	2 (Minor)	Medium		Plant Health (England) Order 2005 Prohibitions and certification schemes for plant imports
TRANSPORT ACCIDENTS							
HL 34	Fire, flooding or collision involving a passenger vessel in UK inland waterways, leading to the ships full/partial evacuation at sea	**Outcome Description** Up to 50 fatalities and up to 100 casualties **Variation & Further Information** Risk based on an accident to a smaller passenger vessel on the River Thames	1 (Low)	3 (Moderate)	Medium	Maritime & Coastguard Agency	Port of London Act 1968 (as amended) General Directions for Navigating in the Port of London 2009 Port of London River Bylaws 1978

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
							Port State Control checks coordinated in European waters Compulsory PLA pilotage for visiting cruise ships PLA Vessels Traffic Management System and coordination with Thames Barrier Navigation Centre Provision of life saving equipment on river banks and specialist response resources
HL 8	Fire, flooding, stranding or collision involving a passenger vessel in or close to UK waters or on inland waterways, leading to the ship's evacuation.	**Outcome Description** Up to 50 fatalities and up to 100 casualties **Variation and Further Information** The risk is based on an accident to a smaller passenger vessel on the UK coast or inland waterways.	1 (Low)	3 (Moderate)	Medium	Maritime & Coastguard Agency	Port of London Act 1968 (as amended) General Directions for Navigating in the Port of London 2009 Port of London River Bylaws 1978 Port State Control checks coordinated in European waters Compulsory PLA

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
							pilotage for visiting cruise ships PLA Vessels Traffic Management System and coordination with Thames Barrier Navigation Centre Provision of life saving equipment on river banks and specialist response resources
H 16	Aviation accident over a semi-urban area	**Outcome Description** Loss of up to two aircraft and passengers, with debris over a semi-urban area. Potential environmental impact affecting waste management (i.e. excessive waste producing during incident, some of which may be hazardous). May require remediation and/or decontamination. **Variation & Further Information** Collision of 2 commercial airliners – death of all passengers and crew (600 fatalities), to 50 fatalities and 300 casualties on the ground. No significant damage to key infrastructure.	2 (Medium Low)	3 (Moderate)	Medium	London Fire Brigade (LFB)	Stringent controls on aircraft entering UK airspace including the mandatory use of Aircraft Collision Avoidance system on heavy aircraft UK flight separation rules CAA Maintenance and Flight Safety Standards Airline maintenance regimes London Resilience Partnership Plans

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
HL 9	Aviation accident	**Outcome Description** Aviation accident causing up to 50 fatalities and up to 250 casualties. Potential environmental impact affecting waste management (i.e. excessive waste producing during incident, some of which may be hazardous). May require remediation and/or decontamination. **Variation & Further Information** Accident involving 1 commercial airliner, probably upon take-off or landing.	2 (Medium Low)	3 (Moderate)	Medium	London Fire Brigade (LFB)	Stringent controls on aircraft entering UK airspace including the mandatory use of Aircraft Collision Avoidance system on heavy aircraft UK flight separation rules CAA Maintenance and Flight Safety Standards Airline maintenance regimes London Resilience Partnership Plans
HL 10	Local accident on motorways and major trunk roads	**Outcome Description** Multiple vehicle incident causing up to 10 fatalities and up to 20 casualties (internal injuries, fractures, possible burns). Subsequent closure of lanes and carriageways causing major disruption. Potential environmental contamination and impact, affecting air, land, water, animal welfare, agriculture and waste management. May require remediation and/or decontamination.	4 (Medium High)	1 (Limited)	Low	Metropolitan Police Service (MPS)	Road Traffic Act 1988 Road Vehicle (Construction and Use) Regulations 1986 Traffic Management Act 2004 VOSA patrols to enforce legislation London Resilience Partnership Plans

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
HL 11	Railway Accident	**Outcome Description** Up to 30 fatalities and up to 100 casualties. Fractures and internal injuries (burns less likely). Possible loss of freight, major disruption to rail lines, possible closure of tunnels. Potential environmental contamination and impact, affecting air, land, water, animal welfare, agriculture and waste management. May require remediation and/or decontamination.	4 (Medium High)	3 (Moderate)	High	British Transport Police (BTP)	Railway and Transport Safety Act 2003 Railways (Access and Management) Regulations 2005 Railways (Accident Investigation and Reporting) Regulations 2005 Railways (Licensing of Railway Undertakings) Regulations 2005 Railways Act 2005 and 1993 The Railways Safety Levy Regulations 2006 Transport Act 2000 Health & Safety at Work etc. Act 1974 The Railway (Safety Case) Regulations 2000 Improved Inspection regimes to detect track defects

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
							Train Protection Warning Systems ATOC Guidance and Directives Specialist Emergency Services and other responder resources
HL 12	Localised accident involving transport of hazardous chemicals	**Outcome Description** Up to 50 fatalities and up to 500 casualties. Direct (fractures, internal injury and burns) and indirect (chemical contamination over a wider area) effects depending on the substance characteristics, quantity and location. E.g. Chlorine **Variation & Further Information** Density of hazardous chemical infrastructure may affect likelihood.	2 (Medium Low)	4 (Significant)	High	London Fire Brigade (LFB)	Carriage of Dangerous Goods by Rail Regulations 1996 Packaging, Labelling and Carriage of Radioactive Material by Rail Regulations 2002 Radioactive Material (Road Transport) Regulations 2002 Air Navigation (Dangerous Goods) Regulations 1994 Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1990 Specialist Emergency

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
							Services and other responder equipment and resources
HL 14	Local (road) accident involving transport of fuel/explosives	**Outcome Description** Up to 30 fatalities and 20 casualties within the vicinity of accident/explosion. Area would require a 1km radius exclusion zone depending on substances involved. Potential released of 30 tonnes of liquid into the environment and watercourses (including the use of high qualities of fire foam). Roads closed and access routes blocked. Emergency services access limited, or impossible.	2 (Medium Low)	3 (Moderate)	Medium	London Fire Brigade (LFB)	Carriage of Dangerous Goods by Rail Regulations 1996 Packaging, Labelling and Carriage of Radioactive Material by Rail Regulations 2002 Radioactive Material (Road Transport) Regulations 2002 Air Navigation (Dangerous Goods) Regulations 1994 Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1990 Specialist Emergency Services and other responder equipment and resources
SEVERE WEATHER							

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
H 17	Storms & Gales	**Outcome Description** Storm force winds affecting most of the South East England region for at least 6 hours. Over 55mph winds, gusts of up to 84mph. Up to 5 fatalities and 50 casualties. Short term disruption to infrastructure including power, transport networks, homes and businesses. **Past Events** 28th October 2013: During the storms of the night of the 27/10/2013 a tree fell down outside a property on Bath Road and resulted in damage to a gas main which caused an explosion early in the morning of the 28/10/13. There were 2 confirmed fatalities and three other hospitalisations including head injuries and burns. The affected road was cordoned off which resulted in all homes within the cordon been evacuated.	3 (Medium)	3 (Moderate)	High	Local Authority	Regular inspections of trees and highways for maintenance Met Office National Severe Weather Warning Service Met Office Hazard Manager Service Responder specialist resources
H 18	Low temperatures and heavy snow	**Outcome Description** Snow fall covering Borough for 3 days, with a depth in excess of 10cm and a daily mean temperature of -3°C. Risk of excess deaths, mainly amongst elderly and vulnerable. Disruption to transport networks, businesses, schools, power and water supply. Weather related incidents.	3 (Medium)	3 (Moderate)	High	Local Authority	Highways Act 1980, Railways and Transport Act 2003 Governments 'Snow Code' Specific plans for traffic management Coordination of gritting and salt stocks Met Office National Severe Weather Warning Service

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
							Responder specialist services
H 48	Heat Wave	**Outcome Description** Daily maximum temperatures in excess of 32°C and minimum temperatures in excess of 18°C for at least 5 consecutive days. Excess deaths through this period, mainly amongst elderly. Potential disruption to power supply and transport infrastructure.	4 (Medium High)	3 (Moderate)	High	Health	Health & Safety at Work etc. Act 1974 Public Health Act Heatwave Plan for England London Resilience Partnership Plans Climate Change Strategy for London Heat-Health Watch
HL 16	Local Coastal / Tidal Flooding	**Outcome Description** Sea surge, high / spring tides, gale force winds, heavy rainfall, some defences overtopped. Flooding of 1000 properties for up to 14 days. Up to 1 fatality and 20 casualties. Up to 2,000 evacuees with some requiring temporary accommodation for an extended period. Widespread disruption and damage to infrastructure, debris, transport issues, contaminated water supplies and pollutants.	1 (Low)	5 (Catastrophic)	High	Environment Agency	Flood & Water Management Act 2010 Land Drainage Act 1991 Water Resources Act 1991 EA Flood Warning Direct Service

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Lead Responsibility	Controls In Place
			Risk Rating			
						Met Office National Severe Weather Warning Service EA inspection of flood defences London Resilience Partnership Plans
HL 18	Local / Urban flooding fluvial or surface run-off	**Outcome Description** Flash flooding and rapidly rising river levels across entire region threaten large urban towns. Localised flooding of 1,000 to 10,000 properties for 2-7 days. Up to 15 fatalities and 150 casualties. Up to 15,000 people evacuated. Up to 500 people stranded over a large area and in need of rescue. Road and rail links impassable for up to 5 days. Sediment contamination of water supplies. Loss of essential services (gas, electricity, water & telecoms) to 20,000 homes for up to 14 days. Up to 1,000 people needing assistance with sheltering for up to 12 months. Sewage treatment works flooded.	3 (Medium)	4 (Significant)	Environment Agency/Local Authority	Flood & Water Management Act 2010 Land Drainage Act 1991 Water Resources Act 1991 EA Flood Warning Direct Service

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
		Up to 50 properties destroyed and many more uninhabitable. Localised economic damage and 6-18 months recovery time required. 6-18 months recovery before business as usual conditions are restored. **Past Events** 29th January 2014: Floods in Feltham. The incident required the deployment of a LALO from the BECC alongside representatives from the Hounslow Highways Drainage team to pump water away, however this was unsuccessful. Thames Water was then contacted and the cause of the flooding was found to be hydraulic overload and the water was then pumped directly into the river.			Very High		Met Office National Severe Weather Warning Service EA Inspection of flood defences London Resilience Partnership Plans
HL 19	Flooding: Local Fluvial Flooding	**Outcome Description** Sustained period of heavy rainfall extending over 2 weeks (e.g. snow melt), resulting in steadily rising river levels over a region. Localised flooding of 100-1000 properties for 2-6 days. 5 fatalities, 50 casualties. Up to 5,000 people evacuated, up to 200 people stranded needing rescue. 250 people requiring shelter for up to 12 months. **Past Events** 6th November 2013: This event of river flooding resulted in the submersion of two parked cars along Chiswick Road South.	3 (Medium)	4 (Significant)	Very High	Environment Agency	Flood & Water Management Act 2010 Land Drainage Act 1991 Water Resources Act 1991 EA Flood Warning Direct Service

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
					High		Met Office National Severe Weather Warning Service EA Inspection of flood defences London Resilience Partnership Plans
L 19	Significant, local non fluvial flooding – surface water, groundwater or burst water main	**Outcome Description** A rapid increase in volume of water in a localised area due to either; heavy rainfall, groundwater emergence or a burst water main which overwhelms to local drainage or river system, collect in low lying areas resulting in flooding of property or infrastructure.	5 (High)	3 (Moderate)	High		Flood and Water Management Act 2012 Land Drainage Act 1991 Water Resources Act 1991 Environment Agency Floodline and public warnings Met Office, National Severe Weather Warning Service Flood Guidance Statements
H 50	Drought	**Outcome Description** Periodic water supply interruptions for a time affecting businesses. Emergency drought orders in place	2 (Medium Low)	4 (Significant)		Environment Agency	Water Resources Act 1991

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
		authorising rota cuts in supply.			High		Flood & Water Management Act 2010 Progressive restraints on consumption to preserve supply for critical services Storage reservoirs
SEVERE SPACE WEATHER							
H 56	Severe Space Weather	**Outcome Description** Disruption to two coastal electrical substations serving approximately 100,000 customers each for two or more months. Consumers would experience a loss of supply for up to half of this period, and rota disconnections may be used during the following four weeks. Disruption to satellite services for several days including interruptions and degradations to GPS, potentially resulting in casualties and fatalities. Up to 2 weeks disruption to aviation (including increased error rates in flight control and air traffic systems) and temporary loss of wireless systems including mobile phones and internet. Increase in error rate in ground based unprotected digital control systems which are ubiquitous in modern technology, for the duration of the storm.	3 (Medium)	3 (Moderate)	High		Electricity Industry monitoring and analysis of GIC Space Weather is assessed as part of the Daily Hazards Assessment National Grid design standards and response arrangements Alternative positioning, navigation and timing signal systems Forecasting through Met Office Space Weather Operations Centre
VOLCANIC HAZARDS							

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
H 54	Disruption to aviation as a consequence of volcanic ash	**Outcome Description** Volcanic ash incursions for up to 25 days resulting in sporadic and temporary closures of significant parts of UK airspace for up to a total of 15 days during a 3 month eruption period. The entire UK mainland and potentially other parts of Europe could be affected for up to 10 of these days. A single period of closure within the 3 month eruptive episode may last for up to 12 consecutive days, depending on meteorological conditions.	4 (Medium High)	2 (Minor)	Medium		Met Office Volcanic Ash Advisory Centre forecasting CAA Volcanic Ash Safety Regime Airline Response Plans
STRUCTURAL							
HL 21	Land Movement (i.e. caused by tremors or landslides)	**Outcome Description** Roads and access routes impassable for a time. Emergency access into/out of large populated areas difficult or impossible, severe congestion over a wider geographical area. Potential environmental impact affecting waste management (i.e. excessive waste producing during incident, some of which may be hazardous). May require remediation and/or decontamination.	1 (Low)	3 (Moderate)	Medium	London Fire Brigade (LFB)	Land Use planning restrictions Building Control regulations enforced by Local Authorities Construction, renovation, maintenance and demolition standards
HL 22	Building Collapse	**Outcome Description** Collapse of a low-rise building (or part). Potential for a number of trapped and missing persons. Local access routes affected due to road closures. Up to 5 fatalities and 20 casualties. Potential environmental impact affecting waste management (i.e. excessive waste producing during incident, some of which may be hazardous). May require remediation and/or	2 (Medium Low)	4 (Significant)		Local Authority	Building Control regulations enforced by Local Authorities Construction, renovation, maintenance and demolition standards

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
		decontamination. **Variation and Further information** Depends on age, size and construction of building, and occupancy rates. **Past Events** 15th July 2014: A partial structural collapse, occurred at around 16:30hrs when demolition works which were taking place at Hounslow House on London Road, Hounslow, and caused part of a wall to collapse in an uncontrolled manner. The incident resulted in a large plume of dust engulfing the road and part of the hoarding around the site fell onto the footpath.			High		and enforcement Emergency Services and other responders specialist resources London Resilience Partnership Plans
HL 22a	Large Building Collapse	**Outcome Description** Collapse of a large building (e.g. high rise block). Up to 100 fatalities and 350 casualties. Potential for number of trapped and missing persons. Severe congestion. Potential environmental impact affecting waste management (i.e. excessive waste producing during incident, some of which may be hazardous). May require remediation and/or decontamination.	2 (Medium Low)	3 (Moderate)	Medium	Local Authority	Building Control regulations enforced by Local Authorities Construction, renovation, maintenance and demolition standards and enforcement Emergency Services and other responders specialist resources London Resilience Partnership Plans

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
HL 23	Bridge Collapse	**Outcome Description** Roads, access routes and transport infrastructure affected. Severe congestion for a length of time. Emergency access affected. Potential for a number of persons to be trapped or missing. Potential environmental impact affecting waste management (i.e. excessive waste producing during incident, some of which may be hazardous). May require remediation and/or decontamination.	1 (Low)	3 (Moderate)	Medium	Local Authority	Building Control regulations enforced by Local Authorities Highways Act Regular Inspections Height and weight restrictions and signs reduce the likelihood of an incident London Resilience Partnership Plans
H 44	Major Reservoir Dam Failure/Collapse	**Outcome Description** Collapse without warning resulting in almost instantaneous flooding. Significant movements of debris (including vehicles) and sediment. Complete destruction of residential and commercial properties (up to 500). 1,000's of properties potentially flooded, and sever damage to infrastructure and communication routes. Up to 50 missing persons and people stranded. Hazardous recovery conditions. Water supply lost to homes and businesses. Up to 200 people requiring temporary accommodation for 2-18 months. Potential environmental impact affecting waste management (i.e. excessive waste producing during incident, some of which may be hazardous). May require remediation and/or decontamination.	1 (Low)	5 (Catastrophic)	High	Local Authority	Reservoirs Act 1975 Water Act 2003 Regular statutory inspections Met Office National Severe Weather Warning Service London Resilience Partnership Plans

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
HL 105	Complex Built Environments	**Outcome Description** Major incident affecting a large building complex / built environment. Incidents have the potential to trigger a complex chain of events that lead to serious consequences for the public.	2 (Medium Low)	3 (Moderate)	Medium	Local Authority	Health & Safety at Work etc. Act 1974 Management of Health & Safety at Work Regulations 1999 Fire and Rescue Services Act 2004 & guidance pursuant to the Regulatory Reform (Fire Safety) Order 2005 Safety at Sports Grounds Act 1975 and Fire Safety and Safety of Places of Sport Act 1987 Local building safety systems and practices Safety Advisory Groups in place at major sports grounds London Resilience Partnership Plans

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
HUMAN HEALTH							
H 23	Influenza Type Disease (Pandemic)	**Outcome Description** Pandemic occurring in one or more 'waves', possible weeks or months apart with each wave lasting 15 weeks. Up to half the population affected in a worst case scenario. High numbers of cases overwhelming Health and other critical services, and adversely effecting businesses and economy. **Variation & Further Information** Pandemic planning worse case clinical attack rate of up to 50% spread over 1 or more waves resulting in fatalities of 2.5%	4 (Medium High)	4 (Significant)	Very High	Public Health England (PHE)	NHS Vaccination Programme (seasonal and provision for pandemic specific) Capacity planning in NHS trusts Comprehensive surveillance systems London Resilience Partnership Plans
H 24	Emerging Infectious Disease	**Outcome Description** Based on SARS outbreak - resulting in 100 fatalities and up to 2000 casualties	3 (Medium)	3 (Moderate)	High	Public Health England (PHE)	NHS Vaccination Programme (seasonal and provision for pandemic specific) Capacity planning in NHS trusts Comprehensive surveillance systems London Resilience Partnership Plans
ANIMAL HEALTH							

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
H 25	Non-zoonotic notifiable animal diseases e.g. foot and mouth disease (FMD), classical swine fever, Blue Tongue and Newcastle Bird Disease	**Outcome Description** Most serious disease in the category is FMD, which drives the impact assessments. Assessments based on the cull and disposal of 4 million animals across the country over 900 infected premises.	3 (Medium)	2 (Minor)	Medium	Local Authority	Animal Health Act 1981 Animal Health Act 2002 Other secondary legislation and EU directives National disease control strategies
H 26	Zoonotic Notifiable animal diseases (e.g. Highly pathogenic Avian Influenza (HPAI), rabies and West Nile Virus)	**Outcome Description** The most significant disease in this category is the highly pathogenic avian influenza (HPAI), largely a disease of birds.	3 (Medium)	2 (Minor)	Medium	Local Authority	Animal Health Act 1981 Animal Health Act 2002 Other secondary legislation and EU directives National disease control strategies
INDUSTRIAL ACTION							
H 31	Significant or perceived significant constraint on fuel supply at filling stations	**Outcome Description** Filling stations, depending on their locations, would start to run dry between 24-48 hours. Panic buying would exacerbate the situation. Replenishment of sites would take between 3-10 days depending on location much would depend on whether drivers from other	3 (Medium)	2 (Minor)		Metropolitan Police Service	Legal requirements re: conduct of industrial disputes. Stocks of contingency fuel to varying degrees

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
		companies judged that they were able to maintain safe operations in the presence of picket lines or protests, and the extent of the supply of fuel from other locations.			Medium		National Emergency Plan for Fuel London Resilience Partnership Plans
INTERNATIONAL EVENTS							
H 37	International security incident resulting in influx of British Nationals who are not normally resident in the UK	**Outcome Description** Up to 10,000 British nationals not normally resident in the UK, returning to UK within a 4-6 weeks period following conventional war, widespread civil unrest or sustained terrorism campaign against British or other Western Nationals. That there would be an influx from Heathrow which would mean agencies/organisations would need to help provide welfare support accommodation and social services for them under their duty of care.	2 (Medium Low)	2 (Minor)	Medium	Local Authority	-
INDUSTRIAL TECHNICAL FAILURE							
H 38	Technical Failure of critical upstream oil/gas facility, gas import pipeline terminal,	**Outcome Description** Catastrophic incident destroying all parts of a critical upstream facility. Causing an impact on fuel supply.	2 (Medium Low)	3 (Moderate)		London Fire Brigade (LFB)	National Emergency Plan for Fuel National Blackstart Plan

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
	or Liquefied Natural Gas (LNG) import reception facility, leading to disruption in upstream oil and gas production		Medium				London Resilience Partnership Plans
H 39	Failure of Water Infrastructure or accidental contamination (non-toxic)	**Outcome Description** Loss of or non-availability of drinking water supply for up to 50,000 people, for more than 24 hours - 3 days, affecting industry, domestic, commercial piped water sources. Water companies required to provide 10 litres per person, per day. Potentially critical infrastructure; hospitals, schools and businesses affected where they do not maintain separate supply.	4 (Medium High)	3 (Moderate)	High	London Fire Brigade (LFB)	Water Industry Act 1991 Security and Emergency Measures Direction 1998 Water companies mutual aid arrangements in place London Resilience Partnership Plans
H 40	No notice loss of significant telecommunications infrastructure in a localised fire, flood or gas	**Outcome Description** Loss of service for up to 100,000 people for up to 72 hours. Possible building damage to a large urban telecoms facility.	2 (Medium Low)	2 (Minor)		Metropolitan Police Service (MPS)	Civil Contingencies Act 2004 Telephone provider demand and network capacity management

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
	incident		Medium				strategies National Emergency Alert for Telecoms London Resilience Partnership Plans
H 41	Technical Failure of National Electricity Network (Blackstart)	**Outcome Description** Total blackout for up to 3-5 days due to loss of the national grid. Damage (e.g. storms) resulting in potential loss of life support machines, civil unrest, no alarms, street lighting, gas heating, rail transport, water supply and loss of mobile telecoms. Sites affected without backup generators.	2 (Medium Low)	5 (Catastrophic)	Very High	London Fire Brigade (LFB)	Testing and maintenance regime National emergency plans London Resilience Partnership Plans
H 45	Technical failure of regional electricity network	**Outcome Description** Total shutdown of the electricity supply over an entire region, in the working week lasting 24 hours	3 (Medium)	4 (Significant)	Very High	London Fire Brigade (LFB)	Testing and maintenance regime National emergency plans Mutual aid resources available London Resilience Partnership Plans
H 43	Telecommunications infrastructure - Human error	**Outcome Description** Widespread loss of telecommunications (including public land lines and mobile networks) at a regional level, lasting for up to 5 days	2 (Medium Low)	4 (Significant)		London Fire Brigade (LFB)	Civil Contingencies Act 2004 Telephone provider demand and network

Risk Ref.	Hazard Sub-Category	Outcome Description/Variation and Further Information/Past Events	Likelihood	Impact	Risk Rating	Lead Responsibility	Controls In Place
					High		capacity management strategies National Emergency Alert for Telecoms London Resilience Partnership Plans
H 49	Loss of drinking water supplies due to a major incident affecting infrastructure	**Outcome Description** Loss or non-availability of drinking water piped supply for 24 hours, lasting up to 2 weeks.	1 (Low)	4 (Significant)	Medium	Local Authority	Water Industry Act 1991 Security and Emergency Measures Direction 1998 Water companies mutual aid arrangements in place London Resilience Partnership Plans
???	Loss of utilities	**Outcome Description** Smaller scale loss of utilities (gas, water, electricity) for >24 hours at a site containing vulnerable persons. **Past Events** 1st April 2013: A gas and electricity disruption occurred at Heston House, an older people's residential care home, for over 48 hours during a cold weather snap leaving residents without heating, hot water or catering facilities. The incident occurred during a Severe Winter Weather Level 2 warning by the Met Office	4 (Medium High)	4 (Significant)	Very High	Local Authority	

Risks Not Applicable and Removed

The risks below are those which are included in the London Risk Register but which are considered by the Hounslow Resilience Forum to be 'not applicable' to the London Borough of Hounslow at the current time. As risk assessment is a dynamic process the status of these risks is re-assessed on a regular basis.

ID	Risk Sub-Category
HL 17	Local coastal/tidal flooding (in one region)
H 55	Severe effusive (gas rich) volcanic eruption overseas
HL 37	Release of significant quantities of hazardous materials as a result of a major shipping accident
HL 42	Loss of cover due to industrial action by workers providing a service critical to the preservation of life
H 30	Emergency services: loss of emergency fire and rescue cover because of industrial action
H 35	Industrial action by key rail or London Underground workers
H 33	Unofficial strike action by prison officers
H 19	Flooding: Major Coastal and Tidal Flooding
H 21	Flooding: Severe Inland Flooding

Appendix 1 – Understanding the Risk Register

The following column headers can be found within the Borough Risk Register.

Risk Identifier

Hazards are subdivided into 'H', 'HL' and 'L'.

i. '**H**' risks are those hazards which will require a national as well as a local response and are identical to those in the National Risk Assessment (NRA). These risks are planned for by the Government, while local responders will need to be aware of the national arrangements and integrate accordingly.

ii. '**HL**' risks give a commonly recognised local picture of the national 'H' risk (if this is judged to be wholly unrepresentative of the local manifestation of the risk for example where a 'H' is not applicable to an LRF then the 'HL' may be appropriate due to the magnitude of the event or relevance). HL risks are also those which would prove a significant challenge to LRFs, but are unlikely to prompt a national response and are therefore not included in the NRA.

iii. '**L**' risks are those risks with unique consequences that are very specific to a particular LRF, and are therefore not covered by the generic descriptions and consequences of 'H' or 'HL' risks. While some other LRFs already include these types of risks in their assessment, the recognition of these LRF-specific local risks, together with guidance on formulating risk outcome descriptions, will allow, if included, greater freedom to identify and assess the risks within Hounslow. The HRF may also wish to take into account longer-term risks.

iv. If new 'HL' and 'L' risks are identified, the HRF will highlight these to CCS, via DCLG RED Advisors/Devolved Administration, for consideration in LRAG, and with neighbouring LRFs so they can consider the relevance of the risk in their respective assessments.

Risk Category

This indicates the type of hazard in question (e.g. industrial accident, severe weather, public protests), and so set the context for the outcome description.

Outcome Description

This is based upon the principle of a “reasonable worst case scenario”, which can be defined as a ‘*challenging yet plausible manifestation of the risk*’. It describes the likely immediate consequences or significance of the event, such as the facilities that might have been affected, the numbers of facilities that might have been destroyed, the number of fatalities and casualties, or extent of contamination. It is this information which enables the subsequent local or national impact assessment.

However, where a national NRA ‘H’ risk outcome description is judged to be wholly unrepresentative of the risk at the local level or the risk is not of a sufficient magnitude to warrant an NRA risk, ‘HL’ risks describe a local “reasonable worst case scenario”.

Variation and Further Information

This provides, where possible, further information on the risk and the historical evidence and assumptions made when formulating the risk outcome description. For example, variation and further information on H33, the risk of an unofficial strike by prison officers, gives details about the proportion of officers expected to strike, historical evidence on how much notice would need to be given, and the types of prison that would likely be affected.

Likelihood Score and Rationale

These columns state the risk likelihood score, the agency that undertook the assessment and the evidence base that underpins the likelihood score.

Appendix 2 – Impact and Likelihood Scoring Scales

Impact Scoring Scales – Qualitative Measures*[1]

Level	Descriptor	Categories of Impact	Description of Impact
1	Limited	Health	• Limited number of injuries or impact on health
		Social	• Limited number of persons displaced and insignificant personal support required • Limited disruption to community services, including transport services and infrastructure
		Economic	• Limited impact on local economy
		Environment	• Limited Impact on environment
2	Minor	Health	• Small number of people affected, no fatalities, and a small number of minor injuries with first aid treatment
		Social	• Minor damage to properties • Minor displacement of a small number of people <24 hours and minor personal support required • Minor localised disruption to community services or infrastructure <24 hours
		Economic	• Negligible impact on local economy and cost easily absorbed
		Environment	• Minor impact on environment with short-term or long-term effects
3	Moderate	Health	• Sufficient number of fatalities with some casualties requiring hospitalisation and medical treatment and activation of MAJAX, the automated intelligent alert notification system, procedures in one or more hospitals
		Social	• Damage that is confined to a specific location, or to a number of locations, but requires additional resources • Localised displacement of >100 people for 1-3days
		Economic	• Limited impact on local economy with some short-term loss of production, with possible additional clean-up costs
		Environment	• Limited impact on environment with short-term or long-term effects

4	Significant	Health	• Significant number of people in affected area impacted with multiple fatalities, multiple serious or extensive injuries, significant hospitalisation and activation of MAJAX procedures across a number of hospitals
		Social	• Significant damage that requires support for local responders with external resources • 100 to 500 people in danger and displaced for longer than 1 week. Local responders require external resources to deliver personal support • Significant impact on and possible breakdown of some local community services
		Economic	• Significant impact on local economy with medium-term loss of production • Significant extra clean-up and recovery costs
		Environment	• Significant impact on environment with medium to long-term effects
5	Catastrophic	Health	• Very large numbers of people in affected area(s) impacted with significant numbers of fatalities, large number of people requiring hospitalisation with serious injuries with longer-term effects
		Social	• Extensive damage to properties and built environment in affected area requiring major demolition • General and widespread displacement of more than 500 people for prolonged duration and extensive personal support required • Serious damage to infrastructure causing significant disruption to, or loss of, key services for prolonged period. Community unable to function without significant support
		Economic	• Serious impact on local and regional economy with some long-term, potentially permanent, loss of production with some structural change • Extensive clean-up and recovery costs
		Environment	• Serious long-term impact on environment and/or permanent damage

*Note *1:*

Levels 1 and 2 on the impact scale are likely to fall below the threshold for an emergency. Therefore there may be no statutory requirement to plan for events that score 1 or 2 on the impact scale.

Explanation of Categories of Impact*2

Category	Explanation
Health	Encompassing direct health impacts (numbers of people affected, fatalities, injuries, human illness or injury, health damage) and indirect health impacts that arise because of strain on the health service
Social	Encompassing the social consequences of an event, including availability of social welfare provision; disruption of facilities for transport; damage to property; disruption of a supply of money, food, water, energy or fuel; disruption of an electronic or other system of communication; homelessness, evacuation and avoidance behaviour; and public disorder due to anger, fear, and/or lack of trust in the authorities
Economic	Encompassing the net economic cost, including both direct (eg loss of goods, buildings, infrastructure) and indirect (eg loss of business, increased demand for public services) costs
Environment	Encompassing contamination or pollution of land, water or air with harmful biological/chemical/radioactive matter or oil, flooding, or disruption or destruction of plant or animal life

*Note *2:*

This is based on the model likelihood and impact scoring scales published in Annex 4D of 'Emergency Preparedness', HM Government, 2005.

Likelihood Scoring Scale

Level	Descriptor	Likelihood Over 5 Years	Likelihood Over 5 Years
1	Negligible	>0.005%	> 1 in 20,000 chance
2	Rare	>0.05%	> 1 in 2,000 chance
3	Unlikely	>0.5%	> 1 in 200 chance
4	Possible	>5%	> 1 in 20 chance
5	Probable	>50%	>1 in 2 chance

Appendix 3 – Definitions of Nationally Approved Risk Ratings*[3]

Definitions of Nationally Approved Risk Ratings	
Very High (VH) Risk	These are classed as primary or critical risks requiring immediate attention. They may have a high or low likelihood of occurrence, but their potential consequences are such that they must be treated as a high priority. This may mean that strategies should be developed to reduce or eliminate the risks, but also that mitigation in the form of (multi-agency) planning, exercising and training for these hazards should be put in place and the risk monitored on a regular frequency. Consideration should be given to planning being specific to the risk rather than generic.
High (H) Risk	These risks are classed as significant. They may have a high or low likelihood of occurrence, but their potential consequences are sufficiently serious to warrant appropriate consideration after those risks classed as 'very high'. Consideration should be given to the development of strategies to reduce or eliminate the risks, but also that mitigation in the form of at least (multi-agency) generic planning, exercising and training should be put in place and monitored on a regular frequency.
Medium (M) Risk	These risks are less significant, but may cause upset and inconvenience in the short term. These risks should be monitored to ensure that they are being appropriately managed and consideration given to their being managed under generic emergency planning arrangements.
Low (L) Risk	These risks are both unlikely to occur and not significant in their impact. They should be managed using normal or generic planning arrangements and require minimal monitoring and control unless subsequent risk assessments show a substantial change, prompting a move to another risk category.

*Note *[3]:*

This is based on the model risk rating matrix published in Annex 4F of 'Emergency Preparedness' (HM Government, 2005).

Further Information

In addition to this version of the risk register, the Contingency Planning Unit (CPU) also publishes a much shorter version that looks at the top risks faced by the London Borough of Hounslow, and has suggestions on what members of the community should do in case of an emergency. Community members can get access to printed copies of that version at the Civic Centre.

The Hounslow Resilience Forum is also looking into conducting workshops in schools to educate children about the purpose and benefits of a risk register. To find out more about this, please use the details given in the following section to contact us.

Questions?

If you have any concerns or questions about the risk register in general, or wish to engage with the Contingency Planning Unit (CPU) on the assessment of risks in the borough, the CPU can be reached via email, phone, and mail at:

Email: contingency.planning@hounslow.gov.uk

Phone number: 020 8583 5111

Address: Emergency Control Centre,

Civic Centre,

Lampton Road,

Hounslow, TW3 4DN

London Borough of Hounslow
Civic Centre, Lampton Road
Hounslow TW3 4DN.
Telephone: 020 8583 2180

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