



Guidance - G1028 Customer Risk Assessment

Purpose – This guidance is to be used by competent assessors when undertaking a London Underground Customer Risk Assessment

Scope – This guidance note contains the information for completing London Underground Customer Risk Assessments

Incident Data – As part of the risk assessment process, previous Incident Data must be considered in order to correctly assess the risk.

LIKELIHOOD – If an individual carried out the activity being assessed at the usual frequency you might expect the individual to be harmed on average			
1	less frequent than every 10 years	9	every six months
5	every ten years	10	every month
6	every three years	12	every week
8	every year	13	every day

SEVERITY - What is the most likely level of injury?	
4 – Minor	<ul style="list-style-type: none"> prolonged discomfort minor ill health minor illnesses (e.g. temporary eye or back strain) any other injury / illness leading to less than three days off work
8 – Moderate	<ul style="list-style-type: none"> strains and sprains severe scratches, cuts and abrasions severe bruising fracture of digits (fingers and toes) minor burn loss of sight or hearing (temporary) any other injury / illness leading to between 3 days and a month off work
11 – Major	<ul style="list-style-type: none"> fractures (hand, wrist, ankle, etc.) unconsciousness major burn amputation of digits(fingers and toes) any other injury / illness leading to between a month and a year off work
14 – Severe	<ul style="list-style-type: none"> fracture of major bone or skull loss of limb or eye loss of sight or hearing (permanent) acute illnesses requiring medical treatment unconsciousness where the person has to be resuscitated any other injury / illness leading to more than a year off work
15 – Fatal	<ul style="list-style-type: none"> fatality

RISK SCORING MATRIX Risk should be scored for the most exposed group of staff e.g. grade or shift	LIKELIHOOD							
	Less frequent than every 10 years	Every 10 Years	Every 3 Years	Every Year	Every 6 Months	Every Month	Every Week	Every Day
	1	5	6	8	9	10	12	13
Fatal 15	MEDIUM 16	HIGH 20	HIGH 21	HIGH 23	HIGH 24	HIGH 25	HIGH 27	HIGH 28
Severe 14	MEDIUM 15	HIGH 19	HIGH 20	HIGH 22	HIGH 23	HIGH 24	HIGH 26	HIGH 27
Major 11	LOW 12	MEDIUM 16	MEDIUM 17	HIGH 19	HIGH 20	HIGH 21	HIGH 23	HIGH 24
Moderate 8	LOW 9	LOW 13	LOW 14	MEDIUM 16	MEDIUM 17	MEDIUM 18	HIGH 20	HIGH 21
Minor 4	LOW 5	LOW 9	LOW 10	LOW 12	LOW 13	LOW 14	MEDIUM 16	MEDIUM 17

Vulnerable Groups	
1 Children	6 Persons under the influence of drugs (incl. Alcohol)
2 Elderly People	7 Persons with hearing difficulties
3 Foreign visitors	8 Persons with learning difficulties
4 Mobility Impaired Persons	9 Visually Impaired persons
5 New and Expectant Mothers	

Stages of a Customer journey			
CRA Stages of a journey (Trains)		CRA Stages of a journey (Stations)	
1	Platform / Train interface (Trains)	1	Travelling around station
2	Train journey	2	Gateline and other station equipment
3	Emergency situations (Trains)	3	Platforms and Platform / Train interface (Stations)
		4	Escalators
		5	Lifts
		6	Travelators
		7	Emergency situations (Stations)

Hierarchy of controls to consider when reducing risks to ALARP:

- Eliminate – removing the hazard or replacing it with something less harmful
- Reduce the hazard or reduce exposure to the hazard
- Isolate the hazard
- Controls – e.g. safe systems of work, procedures, training
- Personal Protective Equipment
- Discipline

Hazards

<p>1. Slips / Trips / Falls a - uneven / slippery surfaces or obstructed surfaces b - working at heights (Fall from height) c - moving between levels (e.g. stairs & escalators) d - slips / trips / falls on same level</p>
<p>2. Falling object a - struck by falling load / equipment / tools / poorly stacked materials b - from a structural failure</p>
<p>3. Machinery / Equipment / Hand Tools a - contact with machinery or moving parts b - exposure to extreme temperatures / hot and cold surfaces c - struck / crushed / trapped by machinery / equipment d - ejected materials e - entanglement / drawn in f - friction / abrasion g - cutting (inc sharp edges) h - shearing i - stabbing / puncturing j - air or high pressure fluid injection e.g. hydraulics k - pressure vacuum l - defective tools / safety devices m - misuse of tools n - person collision with stationary object e.g. hitting head, scratching arm o - aberrant movement (Computer Numerical Control (CNC) machines) p - stored energy q - uncontrolled movement</p>
<p>4. Vehicles a - struck by motorised vehicle b - collision between motorised vehicles c - collision with stationary object d - collision with person (e.g. on roads, pavements, car parks, worksites) e - mechanical breakdown f - shedding of load g - toppling over h - falling from vehicle (moving or stationary) i - mechanical handling j - people / vehicle interface (on site) k - uncontrolled movement l - trapped / crushed in / or between</p>
<p>5. On Track vehicles a - struck by train b - train collision / derailment c - falling from vehicle (moving or stationary)</p>
<p>6. Electricity a - contact with low voltage (< 240v) (working with / near low voltage) b - contact with high voltage (>240v) (working with / near high voltage) c - exposure to arcing d - interruption of supply e - defective portable tools & equipment f - electrical testing live / dead / static g - electricity or electrical discharges h - electricity working dead / near other electricity i - electricity working live / near other electricity j - loss of integrity of cables</p>
<p>7. Fire / Explosion a - compressed air b - ignition of accumulated material e.g. waste c - ignition of electrical equipment d - ignition of combustible materials / solvents / fuels / cylinders e - ignition of flammable structure f - ignition of flammable materials (e.g. gases, liquids, explosion) g - ignition of clothing (e.g. contaminated with oil / grease / solvents)</p>

<p>8. Deliberate acts a - terrorism b - vandalism / arson c - antisocial behaviour d - theft</p>
<p>9. Health Hazard (Biological) a - contact with contaminated body fluids / syringes / sharps (Viruses such as Hepatitis / HIV) b - contact with contaminated material / water (Bacteria such as Legionella, Leptospirosis) c - contact with animal products (e.g. feathers, excrement, anthrax) d - exposure to fungus e.g. mould</p>
<p>10. Health Hazard (Chemical) a - exposure to toxic / corrosive / irritant substance b - exposure to asbestos / asbestos containing material c - exposure to dust / smoke / fumes (e.g. carbon monoxide) d - exposure to lead</p>
<p>11. Health Hazard (Physical) a - exposure to hot / cold environment (e.g. in extreme weather conditions / working environment) b - inadequate ventilation / draughts c - exposure to noise d - exposure to radiation (e.g. infra-red / ultra violet / microwave / ionising / non-ionising) e - exposure to whole body vibration f - exposure to hand arm vibration g - fatigue h - overcrowding l - exposure to hot / cold humidity (e.g. in extreme weather conditions / working environment) j - voice strain / sore throats / voice loss (e.g. call centre workers) k - artificial optical l - exposure to scalding water</p>
<p>12. Ergonomics / task design a - working with display screen equipment at work b - manual handling (e.g. lifting / twisting / pushing / pulling) c - undertaking repetitive tasks (leading to upper limb disorder) d - cramped / awkward / unstable / sustained position e - inadequate lighting f - exposure to light glare e.g. flash photography g - working with display screen equipment at home h - making mistakes / errors i - working with tablet devices</p>
<p>13. Trauma a - exposure to verbal violence b - exposure to physical violence c - involvement in accident / incident d - witnessing traumatic event</p>
<p>14. Psychological stress a - job demands b - job / organisation uncertainties c - interpersonal difficulties d - time constraints</p>
<p>15. Collapse a - collapse of ground b - collapse of equipment (e.g. scaffolding, racking) c - collapse of excavation</p>
<p>16. Confined Spaces a - flammable / explosive atmosphere b - oxygen deficiency (asphyxiation) c - oxygen enrichment d - toxic atmosphere e - trapping f - excavations g - exposure to extreme environment</p>
<p>17. Other a - any other specific hazard</p>

Controls

<p>1. Physical modifications</p> <p>a - guarding / enclosures (fixed or adjustable, including temporary)</p> <p>b - interlocks (e.g. hold to run / trip devices)</p> <p>c - maintenance (e.g. of vehicles / equipment)</p> <p>d - barriers</p> <p>e - stop / emergency stop controls</p> <p>f - railings / hand rails</p> <p>g - authorised walkways</p> <p>h - bridges across pits</p> <p>i - other</p>
<p>2. Housekeeping</p> <p>a - safe storage of materials (e.g. hazardous substances / inflammable & explosives)</p> <p>b - cleaning</p> <p>c - tidy</p> <p>d - waste segregation</p> <p>e - other</p>
<p>3. Inspections</p> <p>a - PGIs</p> <p>b - pre-start checks / pre-use checks</p> <p>c - audits</p> <p>d - local inspections</p> <p>e - statutory inspection</p> <p>f - security patrols</p> <p>g - health safety and environment tours</p> <p>h - equipment testing</p> <p>i - systems check</p> <p>j - other</p>
<p>4. Safe systems of work</p> <p>a - electrical insulation / isolation</p> <p>b - permit systems / licence checks (e.g. for cars / Fork Lift Trucks)</p> <p>c - working under protection</p> <p>d - monitoring</p> <p>e - locking off</p> <p>f - method statements</p> <p>g - zoned area</p> <p>h - exclusion zones</p> <p>i - controlled access / trained personnel only</p> <p>j - banksman</p> <p>k - crowd control</p> <p>l - traffic management plan</p> <p>m - other</p>
<p>5. Procedures / Standards</p> <p>a - Rule Book</p> <p>b - LU and TfL standards</p> <p>c - Railway Group standards</p> <p>d - Managers Handbook</p> <p>e - Company Management System</p> <p>f - Project Management Framework</p> <p>g - other</p>
<p>6. Incident management</p> <p>a - emergency preparedness plans</p> <p>b - security arrangements</p> <p>c - attendance of emergency services</p> <p>d - first aid</p> <p>e - evacuation routes</p> <p>f - resumption plans</p>

<p>g - escalation process / plan</p> <p>h - near miss /near hit / incident reporting</p> <p>i - other</p>
<p>7. Communication</p> <p>a - station radio</p> <p>b - train radio</p> <p>c - other handheld radios (depots)</p> <p>d - mobile phones / blackberrys</p> <p>e - tunnel telephone wires</p> <p>f - NCC speaker</p> <p>g - LCD information screens</p> <p>h - local tannoy</p> <p>i - other</p>
<p>8. Info / Instruction</p> <p>a - briefings / pre-start</p> <p>b - publications e.g. Manufacturer's Instructions</p> <p>c - supervision</p> <p>d - signage</p> <p>e - written communications</p> <p>f - toolbox talks</p> <p>g - process / work instructions</p> <p>h - bulletins</p> <p>i - inductions</p> <p>j - other</p>
<p>9. Uniform</p> <p>a - LU uniform</p> <p>b - hi-visibility clothing</p> <p>c - other</p>
<p>10. Equipment</p> <p>a - PPE</p> <p>b - portable alarms</p> <p>c - ventilation systems (e.g. local exhaust ventilation)</p> <p>d - spill kits / bunding</p> <p>e - equipment for the disposal of hazardous waste inc sharps</p> <p>f - lighting / lamps / torches</p> <p>g - traction current equipment e.g. CRIDs, SCDs</p> <p>h - working platform</p> <p>i - fall arrest equipment and restraint</p> <p>j - first aid equipment</p> <p>k - mechanical / mobile equipment</p> <p>l - protection appliances e.g. jigs, holders and push sticks</p> <p>m - correct tools (including usage)</p> <p>n - other</p>
<p>11. Fire</p> <p>a - automatic fire detection and suppression systems</p> <p>b - portable fire fighting equipment</p> <p>c - fire / smoke doors</p> <p>d - emergency lighting</p> <p>e - escape route</p> <p>f - directional signage</p> <p>g - compartmentation</p> <p>h - fire alert / alarm system</p> <p>i - Staff Assembly Point (SAP) / Rendezvous Point (RVP)</p> <p>j - other</p>

<p>12. PPE</p> <p>a - hard hat</p> <p>b - bump cap</p> <p>c - eye protection</p> <p>d - foot wear</p> <p>e - hand protection</p> <p>f - high visibility clothing</p> <p>g - respirators / face masks</p> <p>h - protective clothing (overalls / weather)</p> <p>i - hearing protection</p> <p>j - full face protection (welding / grinding / cutting)</p> <p>k - full body protection</p> <p>l - gloves</p> <p>m - hand barrier cream</p> <p>n - harnesses</p> <p>o - Breathing apparatus set (confined spaces)</p> <p>p - Breathing apparatus rescue set (confined spaces)</p> <p>q - storage</p> <p>r - other</p>
<p>13. Training</p> <p>a - initial</p> <p>b - competence assurance</p> <p>c - refresher</p> <p>d - location specific</p> <p>e - equipment specific</p> <p>f - regulation specific</p> <p>g - team briefing on specific topics</p> <p>h - e learning / on line learning</p> <p>i - other</p>
<p>14. Organisational support</p> <p>a - management support</p> <p>b - support on management of LUOH issues</p> <p>c - LUOH support of individuals</p> <p>d - LU specialist support</p> <p>e - health surveillance</p> <p>f - mentoring support</p> <p>g - other</p>
<p>15. welfare</p> <p>a - shower facilities</p> <p>b - lighting</p> <p>c - heating</p> <p>d - drinking water</p> <p>e - washing facilities</p> <p>f - sanitation / toilets</p> <p>g - eating area</p> <p>h - rest area</p> <p>i - job rotation</p> <p>j - regular breaks</p> <p>k - working time directive</p> <p>l - first aid rooms</p> <p>m - capability for the task</p> <p>n - cooling</p> <p>o - adequate ventilation</p> <p>p - changing / locker room</p> <p>q - other</p>
<p>16. Other</p> <p>a - any other specific control</p>