APPENDIX A

RISK ASSESSMENT – CALCULATION
(to be used with MS-32 – Appendix B)

1 HAZARD AND RISK RANKING

Risk Ranking Components

Three risk factors are combined to produce the overall risk ranking:

- The frequency with which the hazard occurs.
- The potential accident severity or typical loss.
- The probability of the accident severity or typical loss occurring.

These factors are described in the following sections:

2 HAZARD FREQUENCY (F)

Frequency provides a measure of the rate a hazard may occur per unit time.

The frequency ratings applied are shown in Table 1.

Occurrence Frequency Rating (F) (within the area concerned)	Rating (F)
Never	0
Remote (once per 1,000 years)	1
Rare (once per 100 years)	2
Infrequent (once per 10 years)	3
Occasional (once per year)	4
Frequent (10 times per year)	5
Common (100 times per year)	6
Very Common (1000+ times per year)	7

Table 1 – Hazard Frequency Ratings

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3 ACCIDENT SEVERITY (S)

The potential severity of each accident scenario is estimated in terms of the consequences of a credible, serious accident.

The severity ratings applied are shown in Table 2.

Consequence	Rating (S)
None	0
Minor Injuries / Minor Disruption	1
Major Injury / Major Disruption	2
Fatality / Partial Station Closure	3
Multiple Fatalities / Full Station Closure	4

Table 2 – Accident Severity Ratings

4 ACCIDENT PROBABILITY (P)

The probability factor assesses the likelihood that the accident occurs (with stated consequence) given that the hazard has occurred.

The probability ratings applied are shown below in Table 3.

Likelihood	Number of times hazard may occur before the accident actually occurs	Rating (P)
Never	–	0
Very Unlikely	1000	1
Improbable	100	2
Occasional	10	3
Near Certain	1	4

Table 3. Accident Probability Ratings

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5 OVERALL SAFETY RISK RANKING

The acceptability of risk is shown by overall ratings in Table 4.

Safety Rating	Guidance
11 or above	HIGH Risk – Could be intolerable
8-10.9	MEDIUM Risk – Corresponds approximately to 'ALARP' region
Less than 8	LOW Risk – Corresponds approximately to 'broadly acceptable region'

Table 4. Risk Rating Guidance

The risk rating is derived for each hazard by summing, as the elements are logarithmic, all the elements that apply to the hazard. However, if any of the ratings are zero, the risk rating is also set to zero.

This scheme yields a fifteen-point scale where a rating of 3 corresponds to minimal risk and a rating of 15 corresponds to a very high risk.

As the scale is logarithmic, a rating of 10 would therefore correspond to 0.1 equivalent fatalities a year.

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APPENDIX B

RISK ASSESSMENT CALCULATION FORM

STATION:	DATE:	TIME:

No.	Hazardous Area	Risk	Risk Rating F	S	P	T	Control	Final Rating F	S	P	T	Owner	Timescale and Completion
1 (a)	Roof Access	Unauthorised access Electrocution Delays Falling from height Fatal Injury											
1 (b)	Signal Gantry	Unauthorised access Electrocution Delays Falling from height Fatal Injury											
2 (a)	Building Access	Unauthorised access Business disruption											
2 (b)	Track Access	Unauthorised access Electrocution Delays Fatal Injury											
3 (a)	Crowd Control ATG's	Crushing Business Disruption											
3 (b)	Crowd Control Marshalling	Crushing Business Disruption											

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No.	Hazardous Area	Risk	Risk Rating F	S	P	T	Control	Final Rating F	S	P	T	Owner	Timescale and Completion
3 (c)	Crowd Control (Platform)	Falling / Pushed from Platform Fatal Injury											
3 (d)	Crowd Control (Behaviour)	Violence Noise Vandalism Property Damage											
3(e)	Crowd Control (Language Barriers)	Misunderstanding Visual / Hearing impairment Confusion											
4 (a)	Vehicle access & Parking	Unauthorised vehicles creating security risk Underground Areas											
4 (b)	Taxis and deliveries	Parked vehicles loading and unloading operations Traffic congestion											
5 (a)	Adjacent infrastructure	Roof Access Personal injury / injury to others Service disruptions											
6	All Public areas	Staff Assault (Network Rail)											
7	Malicious Fire Alarm Activations & Sabotage	Malicious Mischief Bomb Threats											

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CROWD CONTROL PLAN

No.	Hazardous Area	Risk	Risk Rating F	S	P	T	Control	Final Rating F	S	P	T	Owner	Timescale and Completion
8 (a)	Tenant / Retailers (High Risk)	Malicious Mischief & Criminal Damage											
8 (b)	Tenants / Retailers (Low Risk)	Malicious Mischief & Criminal Damage											
9 (a)	Housekeeping	Spillages & litter											
9 (b)	Housekeeping	Trolleys, Ramps, Catering & Cleaning equipment											
10	Contractor Activity	Work in progress during events											
11	Service Disruption requiring bus transfer	Congestion on concourse and platforms creating risk to public safety Congestion on pavements Staff assault Vehicle / Staff interface Vehicle / passenger interface.											
12	Security Threat	Heightened risk from Bomb or Explosion from terrorist or associated agencies											
13	Utilities	Access to motor rooms, plant rooms, switchboards and substations											

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No.	Hazardous Area	Risk	Risk Rating F	S	P	T	Control	Final Rating F	S	P	T	Owner	Timescale and Completion
14	Station Facilities	Damage to Lifts, CIS Displays, Advertising Units, Toilets, Escalators Movement of mobility impaired persons											
16	Station Vehicles	Movements on concourse and platforms											
17	Signal Centre	Damage or Security threat											
18	External Factors / Influences	Shopping Centres Night Clubs / Pubs Construction Sites Bus / Coach Depot Tramway Underground Railway Adjacent Busy Roads Adjacent Buildings and Structures (Bridges) Sporting Venues Fire Station Ambulance Depot Hospital											
19	Re-entry	Crowd Congestion Crushing Partial Entry Disabled											

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APPENDIX C

DISTRIBUTION LIST / SUGGESTED RECIPIENTS

(*some agencies may only require an extract from the plan i.e. revised IRVP's for emergency services; Revised agreed opening times for SSP retail outlets*)

Document Control No.	Agency / Organisation	Contact Name / Job Title	Contact Telephone No.
	Network Rail	Area General Manager	
	Network Rail	Station Manager	
	Network Rail	Shift Station Managers	
	Network Rail	Station Reception	
	Network Rail	Operations Risk Specialist	
	Network Rail HQ	Special Operations Manager	085 - 78504
	Network Rail Route PD	Project Manager	
	Network Rail Route / Area	Control Office	
	TOCs	Station Manager/s	
	LU	Contingency Planning Manager	
	LU	Group Station Manager	
	London Buses	Area Controller (extract only)	
	Cleaning Contractor	Local Manager	
	Agency Staff i.e. Capes	Local Contact	
	BTP	Contingency Planning Dept	
	BTP	Chief Inspector	
	Local Authority	Contingency Planning Dept	
	Fire Service	Local Contact (extract only)	
	Ambulance Service	Local Contact (extract only)	
	SSP / Retail tenancies	Local Contact (extract only)	
	Neighbours	Local Contact (extract only)	
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