

WEST MIDLANDS CONURBATION RESILIENCE FORUM COMMUNITY RISK REGISTER

TYPE OF RISK	RISK CATEGORIES (AND SUB-CATEGORIES)	OUTCOME DESCRIPTION	LIKELIHOOD	IMPACT	RISK RATING
INDUSTRIAL ACCIDENTS AND ENVIRONMENTAL POLLUTION					
WMC / H1	Fire or explosion at a gas terminal as well as LPG, LNG, and other gas onshore feedstock pipeline and flammable gas storage sites.	Up to 3km around site causing up to 500 fatalities and up to 1500 casualties. Gas terminal event likely to be of short duration once feed lines are isolated; event at a storage site could last for days if the explosion damaged control equipment.	Low	Moderate	Medium
WMC / H2	Fire or explosion at an onshore ethylene gas pipeline.	Up to 3km around site causing up to 500 fatalities and up to 1500 casualties.	Low	Moderate	Medium
WMC / HL1	Fire or explosion at a gas terminal or involving a gas pipeline.	Up to 3km around site causing up to 10 fatalities and 100 casualties.	Low	Moderate	Medium
WMC / H4	Fire or explosion at a fuel distribution site or a site storing flammable and/or toxic liquids in atmospheric pressure storage tanks.	Up to 3km around site causing up to 150 fatalities and up to 2000 casualties. Explosions would cause primarily crush/cuts & bruises type injuries, as well as burns – fires would cause predominantly burn-type injuries.	Low	Moderate	Medium
WMC / H5	Fire or explosion at an onshore fuel pipeline.	Up to 1km around site causing up to 100 fatalities and up to 500 casualties.	Low	Moderate	Medium
WMC / H7	Explosion at a high pressure natural gas pipeline.	Local to site causing up to 200 fatalities and up to 200 casualties.	Low	Moderate	Medium
WMC / H8	Very large toxic chemical release.	Up to 10km from site causing up to 2000 fatalities and up to 10,000 casualties. Toxic release could be due to loss of containment of chlorine – or of a number of other chemicals, e.g. anhydrous hydrofluoric acid, refrigerated ammonia, sulphur dioxide (or tri-oxide) gas.	Low	Significant	Medium
WMC / H9	Large toxic chemical release.	Up to 3km from site of toxic chemical release causing up to 50 fatalities and up to 2000 casualties.	Medium Low	Moderate	Medium

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WMC / HL2	Industrial accident involving large toxic release e.g. from a site storing large quantities of chlorine.	Up to 3km from site causing up to 30 fatalities and up to 250 casualties.	Medium Low	Moderate	Medium
WMC / HL3	Industrial accident involving small toxic release.	Up to 1km from site causing up to 10 fatalities and up to 100 casualties.	Unlikely	Moderate	High
WMC / H11	Accidental release of radioactive material from incorrectly handled or disposed sources.	Up to 5 fatalities and up to 100 contaminated people requiring medical monitoring. Many worried people may present at hospitals. Radiation may be spread over a range of several kilometres but most concentration where source is opened.	Low	Significant	Medium
WMC / H12	Biological substance release from Control measure failure (e.g. dangerous pathogen release from containment laboratory).	Up to 10 fatalities and serious injuries or offsite impact requiring up to 1,000 casualties.	Low	Minor	Low
WMC / H14	Major contamination incident with widespread implications for the food chain, arising from: a) Industrial accident (chemical, microbiological, nuclear) affecting food production areas e.g. Chernobyl, Sea Empress oil spill, Foot and Mouth Disease. b) Contamination of animal feed e.g. dioxins, BSE. c) Incidents arising from production processes, e.g. adulteration of chilli powder with Sudan I dye.	Food production / marketing implications depending on scale and area affected e.g. major shellfisheries, dairy, and livestock production areas. Potential direct animal and consumer health effects including possible fatalities and casualties. Consumer confidence affected leading to lost markets or panic buying.	Medium High	Moderate	High

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WMC / HL4	Major pollution of controlled waters.	Pollution incident impacting upon controlled waters, (for example, could be caused by chemical spillage or release of untreated sewage) leading to persistent and/or extensive effect on water quality, major damage to aquatic ecosystems, closure of potable abstraction point(s), major impact on amenity (i.e. tourism) value, serious impact on human health.	Medium High	Moderate	High
WMC / HL5	Major land contamination incident.	Pollution incident (for example chemical spillage) leading to persistent and/or extensive effect on land quality, major damage to terrestrial ecosystems, property, amenity (i.e. tourism) value and major damage to agriculture/ commerce, serious impact on human health.	Medium High	Moderate	High
WMC / HL6	Major air quality incident.	Pollution incident (for example uncontrolled emission from an industrial facility or uncontrolled release of landfill gas) leading to persistent and/or extensive effect on air quality, major damage to local ecosystem, major effect on amenity (i.e. tourism) value and serious impact on human health.	Medium High	Moderate	High
WMC / HL7	Industrial explosions and major fires.	Up to 1km around site causing up to 10 serious injuries and up to 100 casualties. This includes the manufacture of illegal substances in non-industrial premises.	Medium	Moderate	High

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TRANSPORT ACCIDENTS					
WMC / HL8	Rapid accidental sinking of a passenger vessel in or close to UK waters or on inland waterways.	Up to 50 fatalities and up to 300 casualties.	Low	Minor	Low
WMC / H16	Aviation accident over major conurbation.	Loss of up to two aircraft and passengers, with debris over a semi-urban area. Up to 600 fatalities and up to 300 casualties.	Low	Significant	Medium
WMC / HL9	Aviation accident.	Causing up to 50 fatalities and up to 250 casualties.	Negligible	Moderate	Medium
WMC / HL10	Local accident on motorways and major trunk roads.	Multiple vehicle incident causing up to 10 fatalities and up to 20 casualties (internal injuries, fractures, possible burns); closure of lanes or carriageways causing major disruption and delays.	High	Significant	Very High
WMC / HL11	Railway accident.	Up to 30 fatalities and up to 100 casualties (fractures, internal injuries – burns less likely). Possible loss of freight. Major disruption to rail line including possible closure of rail tunnel.	Low	Moderate	Medium
WMC / HL12	Local accident involving transport of hazardous chemicals.	Up to 50 fatalities and up to 500 casualties (direct injuries) from the accident would be similar to road or rail accidents; indirect casualties are possible, if substance covers wide area). The extent of the impact would depend on substance involved, quantity, nature and location of accident. The assumption is based on phosgene/chlorine.	Low	Significant / Catastrophic	Medium
WMC / HL14	Local (road) accident involving transport of fuel/explosives.	Up to 30 fatalities and up to 20 casualties within vicinity of accident/explosion. Area would require evacuating up to 1km radius depending on substances involved. Potential release of up to 30 tonnes of liquid fuel into local environment, watercourses etc. Large quantities of fire fighting media (foam) would impact on environment. Roads and access routes impassable for a time. Emergency access into/out of large populated areas difficult or impossible.	Medium Low	Significant	High

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WMC / Add01	Radioactive substance release following an accident involving transport of nuclear material /warheads.	Up to 4km from site causing up to 150 fatalities and up to 1500 casualties.	Low	Significant	Medium
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SEVERE WEATHER					
WMC / H17	Storms and Gales	Storm force winds affecting the Conurbation for at least 6 hours with mean speeds in excess of 55mph with gusts in excess of 85mph. Consequent damage to infrastructure.	Medium	Significant	Very High
WMC / H18	Low temperatures and Heavy Snow.	Snow lying over most of the country for at least one week. Most lowland areas experience some snow falls in excess of 30cm, some drifts in excess of 1m, and a period of at least 7 consecutive days with daily mean temperatures below -3°C. Consequent damage to infrastructure (e.g. telecommunications, power, transport).	Medium High	Significant	Very High
WMC / H48	Heat wave.	Daily maximum temperatures above 32°C and minimum temperatures above 15°C over most of the area for at least 5 consecutive days and nights.	Medium	Significant	Very High
WMC / Add02	Tornados of T4 or greater intensity.	Tornados (wind speed 115-136 mph) or greater intensity on the Torro Scale. A no notice event, with more than 100 but less than 1000 properties affected. Up to 10 fatalities and 50 people injured.	Medium High	Significant	Very High
WMC / HL18	Major local fluvial flooding.	Localised flooding of more than 1,000 and less than 10,000 properties in the West Midlands Conurbation (Tame and Sowe river catchments). A sustained period of heavy rainfall extending over two weeks, perhaps combined with snow melt, resulting in steadily rising river levels over a region. Localised flooding of more than 1000 and less than 10,000 properties. There would be some impact on minor roads and some A roads and trunk roads impassable for a time. Some main rail lines would be closed (where bridges are deemed unsafe for example). Some minor rail lines and stations would be closed. Most waterways would be closed to traffic because of strong currents and high water levels.	Medium	Moderate	High

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WMC / HL19	Major localised fluvial flooding.	Localised flooding of more than 100 and less than 1,000 properties in the West Midlands Conurbation (Tame and Sowe river catchments). A sustained period of heavy rainfall extending over two weeks, perhaps combined with snow melt, resulting in steadily rising river levels over a region. There would be some impact on minor roads and some A roads and trunk roads impassable for a time. Some main rail lines would be closed (where bridges are deemed unsafe for example). Some minor rail lines and stations would be closed. Most waterways would be closed to traffic because of strong currents and high water levels.	Medium High	Moderate	High
WMC / HL20	Localised, extremely hazardous flash flooding.	Localised fluvial flash flooding in the River Tame catchment (Birmingham) and River Sowe catchments (Coventry). Heavy localised rainfall in steep valley catchments leading to flash flooding. Likely that no flood defences in place. Possibly no flood warning service available/ suddenness of event means timely flood warnings not possible. Flooding of up to 200 properties.	Medium	Moderate	High

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STRUCTURAL					
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WMC / HL21	Land movement (i.e. caused by tremors or landslides).	Roads and access routes impassable for a time. Emergency access into/out of large populated areas difficult or impossible; severe congestion over wide geographical area. Loss of power and other essential services over wide geographical area. Potential for a number of persons to be trapped or missing either in landslide itself and/or in collapsed structures. Up to 5 fatalities depending on the size and location of land movement.	Low	Moderate	Medium
WMC / HL22	Building collapse.	Potential for a number of persons to be trapped or missing. Localised loss of power and other essential services. Local access routes affected due to road closures. Up to 5 fatalities depending on the size and construction of building and occupation rates.	Low	Moderate	Medium
WMC / HL23	Bridge collapse.	Roads, access routes and transport infrastructure impassable for considerable length of time. Severe congestion over wide geographical area. Emergency access into/out of large populated areas severely restricted. Potential for a number of persons to be trapped or missing.	Low	Moderate	Medium
WMC / H44	Major reservoir dam failure caused by internal erosion or overtopping.	Complete destruction or serious damage to up to 200 downstream properties. Several thousand other properties could be flooded. Extent of downstream effect could reach 50-60km depending on topography. Up to 2000 fatalities could result though this would be mitigated by the extent of warning time given and evacuation taking place effectively.	Low	Catastrophic	Medium

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HUMAN HEALTH					
WMC / H22	Influenza type disease (epidemic)	A serious epidemic of much greater severity than the usual seasonal flu. Weekly GP consultations for new episodes of flu-like illness likely to exceed 400 per 100,000 of population at the peak (compared with a peak of around 200 per 100,000 of population per week in an average year).	Possible	Significant	Very High
WMC / H23	Influenza type disease (pandemic)	Pandemic likely to occur in one or more waves, each of around 15 week duration, weeks or months apart. Consultations likely to exceed 1,000 per 100,000 of population per week during the main pandemic period and possibly reaching 5,000-10,000 per 100,000 for 1-2 weeks at the peak. This will overwhelm health and other services. 25-50% of the population may be affected with case fatality rate of 0.32.5%. Impossible to predict which age groups will be more affected but all ages are at risk. Staff absence rates will adversely impact upon business continuity. Absenteeism levels of 15% for large organisations and 30% or more for smaller ones, in addition to usual absence rates, over the 2-3 week peak.	Medium High	Catastrophic	Very High
WMC / H24	Emerging infectious disease	Based on SARS outbreak resulting in up to 100 fatalities and 2000 casualties.	Medium	Moderate	High
WMC / HL24	Localised Legionella / meningitis outbreak.	Localised outbreak of a disease, which could cause up to 10 fatalities and up to 50 casualties.	Medium Low	Minor	Low

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ANIMAL HEALTH					
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WMC / H26	Zoonotic notifiable animal diseases (e.g. Highly Pathogenic Avian Influenza (HPAI), rabies and West Nile Virus).	Culling of up to 30 million poultry (HPAI) or euthanasia of up to 20 companion animals (plus the possibility of wildlife being affected (Rabies). For West Nile Virus spread by viable vectors in the UK the slaughter of 20-1000 horses is a possibility.	Medium High	Minor	Medium
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PUBLIC PROTEST					
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WMC / Add05	Civil Unrest	Up to 1,000 highly motivated protesters including a hard core of up to 100 protesters causing physical damage requiring a coordinated police lead multi agency response.	Medium	Minor	Medium
WMC / Add06	Targeted disruptive protest, e.g. fuel protest.	Targeted nationally coordinated disruptive protest that could generate shortages of essential supplies and last for up to 1 week.	Medium Low	Minor	Low

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INDUSTRIAL TECHNICAL FAILURE					
WMC / H38	Technical failure of upstream (offshore) oil/gas network leading to a disruption in upstream oil and gas production.	Catastrophic accident destroying all parts of a critical upstream facility and, in the worst case taking months or more to restore normal levels of service. This could potentially result in up to 15% loss of gas supply to UK which could impact on power generation if demand were high. As 40% of power is generated by gas fired stations then a reduction in generation might be felt. Downstream oil would not be so adversely affected given alternative means of supply.	Medium	Moderate	High
WMC / H39	Failure of water infrastructure or accidental contamination with non-toxic contaminant.	Loss or non-availability for drinking, of the piped water supply, for up to 50,000 people, for more than 24 hours and up to 3 days.	Low	Moderate	Medium
WMC / H40	No notice loss of significant telecommunications infrastructure in a localised, such as a fire, flood or gas incident	Loss of telecommunications for up to 100,000 people for up to 72 hours.	Medium	Significant	Very High
WMC / H41	Technical failure of electricity network (Black Start).	Partial or total blackout for up to 3 days. Destabilisation of the National Grid. Possible loss of life support machines, civil unrest, no alarms, street lighting etc. Back up generators available for limited time in some instances.	Medium Low	Moderate	Medium
WMC / H43	Telecommunication infrastructure – human error.	Widespread loss of telecommunications (including public land line and mobile networks) at a regional level for up to 5 days.	Medium	Significant	Very High
WMC / H45	Technical failure of electricity network.	Total shutdown of the electricity supply over an entire region or (DA), occurring during working hours and lasting for 24 hours.	Medium	Moderate	High

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INTERNATIONAL EVENTS					
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WMC / H37	Large-scale arrival of 5,000 British evacuees into the West Midlands region.	The evacuees who are not absorbed into their existing UK families will be provided with support from the seven local authorities in the West Midlands region. This equates to some 700 evacuees per local authority, of which on a pro rata basis, 140 will be deemed 'vulnerable' as a key planning assumption.	Medium	Minor	Medium
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INDUSTRIAL ACTION					
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WMC / Add03	Loss of cover due to industrial action / strike by workers providing critical services / Category 1 Responders / Prison Officers / Rail Workers.	A number / series of strikes with significant support over a period of 2 months / 48 hours / 72 hours+.	Medium High	Minor	Medium
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TERRORISM & MALICIOUS THREAT					
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WMC / Add04	Actual terrorist attack. Actual explosive device or perceived threat of explosive device.	Complete destruction and or serious structural damage to location of explosion. Multiple fatalities and casualties.	High	Significant	Very High
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