

Hants Risk Ref	Hazard Category and Hazard sub-category	Outcome Description	Likelihood	Impact	Overall Rating
	<b>Industrial Accidents and Environmental Pollution</b>				
H1	Fire or explosion at a gas LPG (Liquefied Petroleum Gas) or LNG (Liquefied Natural Gas) terminal (or associated onshore feedstock pipeline) or flammable gas storage site	Up to 3km around site causing up to 500 fatalities and 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.	Medium Low	Significant	HIGH
HL1	Fire or explosion at a gas terminal or involving a gas pipeline.	Up to 3km around site, causing up to 10 fatalities and up to 100 casualties	Low	Moderate	MEDIUM
HL25	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 1km around site, causing up to 50 fatalities and 150 casualties,	Low	Moderate	MEDIUM
H2	Fire or explosion at an onshore ethylene gas pipeline	Up to 3km around site causing up to 500 fatalities and 1500 casualties.	Low	Moderate	MEDIUM
HL26	Localised fire or explosion at an onshore ethylene gas pipeline	Up to 1km around site, causing up to 150 fatalities and 450 casualties.	Low	Moderate	MEDIUM
H3	Fire or explosion at an oil refinery	Up to 3km around site causing up to 500 fatalities and 1500 casualties. Depending on the location and size of the release, the fire could burn for several days.	Low	Significant	MEDIUM
HL27	Localised fire or explosion at an oil refinery	Up to 1km around site, causing up to 150 fatalities and 500 casualties.	Medium Low	Significant	HIGH
HL7	Industrial explosions and major fires	Up to 1km around site, causing up to 20 casualties, some of a serious nature. Explosions would cause primarily crush / cuts and bruise-type injuries, as well as burns.	Medium Low	Minor	MEDIUM
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 2000 casualties.	Medium Low	Significant	HIGH
HL28	Localised fire or explosion at a fuel distribution site or tank storage of flammable and /or toxic liquids	Up to 1km around the site, causing up to 15 fatalities and 200 casualties.	Medium Low	Significant	HIGH
H5	Fire or explosion at an onshore fuel pipeline	Up to 1km around site causing up to 100 fatalities and 500 casualties.	Low	Significant	MEDIUM
H6	Fire or explosion at an offshore oil/gas platform. <b>Currently does not apply to HIOW LRF.</b>	Local to site causing up to 200 fatalities and up to 200 casualties.			
H7	Explosion at a high pressure gas pipeline	Local to site causing up to 200 fatalities and up to 200 casualties.	Low	Moderate	MEDIUM
HL30	Localised explosion at a natural gas pipeline	Causing up to 100 fatalities and up to 100 casualties.	Low	Moderate	MEDIUM
H8	Very large toxic chemical release	Up to 10 km from site causing up to 2000 fatalities and 10000 casualties. Toxic release could be due to loss of containment of chlorine – or a number of other chemicals, e.g. anhydrous hydrofluoric acid, refrigerated ammonia, sulphur di-oxide (or tri-oxide) gas.	Medium Low	Catastrophic	HIGH
H9	Large toxic chemical release	Up to 3km from site up to 50 fatalities and up to 2000 casualties	Medium	Significant	VERY HIGH

HL2	Localised 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	Significant	VERY HIGH
HL3	Localised industrial accident involving small toxic release	Up to 1km from site, causing up to 10 fatalities and up to 100 casualties.	Medium	Moderate	HIGH
H10	Radioactive substance release from a nuclear reactor	Up to 4km from site causing up to 150 fatalities and 1500 casualties.	Low	Catastrophic	MEDIUM
HL31	Limited radioactive substance release from a nuclear accident. <b>Currently does not apply to HIOW LRF.</b>	Up to 1 km from site causing up to 50 fatalities and 500 casualties			
H11	Accidental release of radioactive material from incorrectly handled or disposed of sources	Up to 5 deaths and 100 contaminated people requiring medical monitoring. Many worried people may present at hospitals. Radiation may be spread over several kilometres but concentration where source is opened.	Low	Moderate	MEDIUM
H12	Biological substance release from facility where pathogens are handled deliberately(e.g. pathogen release from containment laboratory)	Up to 10 fatalities and serious injuries or offsite impact causing up to 1,000 casualties	Medium	Minor	MEDIUM
H46	Biological substance release during an unregulated work activity or industrial process (e.g. Legionella release due to improperly maintained building environmental control systems).	Up to 10 fatalities and serious injuries or offsite impact causing up to 1,000 casualties	High	Minor	MEDIUM
H14	Major contamination incident with widespread implications for the food chain, arising from: 1. industrial accident (chemical, microbiological, nuclear) affecting food production areas e.g. Chernobyl, Sea Empress oil spill, Animal Disease. 2. Contamination of animal feed e.g. dioxins, BSE. 3. Incidents arising from production processes e.g. adulteration of chilli powder with Sudan 1 dye.	There may be direct animal and consumer health effects arising from this incident. We assume a small number of fatalities (5) and casualties (50), although the public health implications of food incidents vary widely. It should be noted that events such as these, that cause an increase in exposure to human carcinogens, raise the risk of fatality even though the casualty cannot be identified.	High	Moderate	HIGH
H15	Maritime pollution	Release of 100,000 tonnes of crude oil into the sea polluting up to 200km of coastline.	Low	Moderate	MEDIUM
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	High	Moderate	HIGH
HL33	Forest or moorland fire	Forest or moorland fire across up to 50 hectares. Evacuation of up to 100 residential homes required. Up to 5 fatalities and 20 casualties.	Medium Low	Minor	MEDIUM
<b>Transport Incidents</b>					
H42	Rapid accidental sinking of a passenger vessel in or close to UK waters.	Up to 500 fatalities and 1000 casualties, potentially with blockage of major sea-lane or port.	Low	Significant	MEDIUM
HL34	Fire, flooding, stranding or collision involving a passenger vessel in or close to UK waters leading to the ship's evacuation or partial evacuation at sea.	Up to 50 fatalities and 100 casualties	Low	Moderate	MEDIUM
HL8	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.	Up to 50 fatalities and 100 casualties	Low	Moderate	MEDIUM

HL37	Release of significant quantities of hazardous chemicals/materials as a result of major shipping accident	Fatalities and casualties unlikely. Significant environmental / ecological damage.	Low	Moderate	MEDIUM
H16	Aviation accident over a semi-urban area	Loss of up to two aircraft and passengers, with debris over a semi-urban area. Up to 600 fatalities (aircraft) 50 fatalities on ground and up to 300 casualties.	Low	Moderate	MEDIUM
HL9	Aviation accident	Causing up to 50 fatalities and up to 250 casualties	Low	Moderate	MEDIUM
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	Medium High	Minor	MEDIUM
HL11	Railway accident	Up to 30 fatalities and up to 100 casualties (fractures, internal injuries - burns possible). Possible loss of freight. Major disruption to rail line including possible closure of rail tunnel.	Low	Moderate	MEDIUM
HL12	Local accident involving transportation 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 impact would depend on substance involved, quantity, nature and location of accident. The assumption is based on phosgene/chlorine.	Medium Low	Significant	HIGH
HL13	Maritime accident or deliberate blockade resulting in blockage of access to key port, estuary, maritime route for more than 1 month	Loss of port is likely to have an initial wider impact, but will quickly reduce as shippers seek alternative ports or methods of shipping. Economic impact on local dependent businesses.	Low	Moderate	MEDIUM
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.	Low	Moderate	MEDIUM
<b>Severe Weather</b>					
H17	Storms and Gales	Storm force winds affecting most of a region for at least 6 hours. Most inland, lowland areas experience mean speeds in excess of 55 mph with gusts in excess of 85 mph. Up to 50 fatalities and 500 casualties.	Medium High	Moderate	HIGH
H18	Low temperatures and heavy snow	Snow falling and lying over most of the area for at least one week. After an initial fall of snow there is further snow fall on and off for at least 7 days. Most lowland areas experience some falls in excess of 10cm, a depth of snow in excess of 30cm and a period of at least 7 consecutive days with daily mean temperature below -3°C. Up to 1000 fatalities and thousands of casualties, mainly amongst the elderly.	Medium High	Significant	VERY HIGH
H48	Heatwave	Daily maximum temperatures in excess of 32°C and minimum temperatures in excess of 15°C over most of a region for at least 5 consecutive days. Up to 1000 fatalities and 5000 casualties, mainly amongst the elderly.	Medium High	Moderate	HIGH
H50	Drought	Periodic water supply interruptions affecting 385,000 businesses in London for up to 10 months. Emergency Drought Orders in place authorising rota cuts in supply according to needs of priority users as directed by SofS. The 2.24 million households in London would not be subjected to supply interruptions.	Medium	Moderate	HIGH

H19	<p>Flooding: Major coastal and tidal flooding affecting more than two UK regions.</p>	<p>Many coastal regions and tidal reaches of rivers affected. Major sea surge, tides, gale force winds and potentially heavy rainfall. Excessive tide levels and many coastal and/or estuary defences overtopped or failing. Drains 'back-up'. Inundation from breaches in defences would be mostly unpredictable, rapid and dynamic with minimal or no warning. The depth and flow velocity would be uncertain. Inundation from overtopping of defences would allow as little as 1 hour to evaluate. Widespread structural damage.</p> <p>Flooding of up to 300,000 properties for up to 14 days. Up to 150 fatalities, 2000 casualties and up to 2000 missing persons. Up to 0.4m people (including tourists) in coastal villages and towns evacuated from flooded sites. People stranded over a large area and up to 40,000 people in need of rescue or leading to safety. Up to 40,000 people needing assistance with sheltering for up to 12 months</p>	Medium	Catastrophic	VERY HIGH
H21	<p>Flooding: Severe inland flooding affecting more than two UK regions</p>	<p>A single massive fluvial event or multiple concurrent regional events following a sustained period of heavy rainfall extending over two weeks (perhaps combined with snow melt and surface water flooding). The event would include severe fluvial flooding affecting a large, single urban area. Closure of primary transport routes. Some infrastructure collapse. Sediment movement and contamination of water supplies. Loss of essential services (gas, electricity &amp; telecoms) to 0.2m homes for up to 14 days. Up to 5000 people needing assistance with sheltering for up to 12mths. Significant economic damage.</p> <p>Urban area dimension: Flooding of up to 40,000 properties for up to 7 days. Up to 50 fatalities and 500 casualties. Up to 100,000 people evacuated. Up to 2,000 people in need of rescue.</p> <p>Rural area dimension: Flooding of up to 10,000 properties for up to 2 days. Up to 20 fatalities and 300 casualties. Up to 50,000 people in rural villages and towns evacuated. People stranded over a large area and up to 2,500 in need of rescue</p>	Medium	Significant	VERY HIGH
HL16	<p>Local coastal / tidal flooding (affecting more than one Region)</p>	<p>Sea surge, spring tides, gale force winds and/or heavy rainfall affecting more than one Region, some defences overtopped or failing at multiple locations. Flooding of 1000 to 10,000 properties for up to 14 days. Up to 20 fatalities, 300 casualties and up to 200 missing persons. Up to 50,000 people (including tourists) in coastal villages and towns evacuated from flooded sites. People stranded over a large area and up to 5,000 people in need of rescue. Up to 10,000 people needing assistance with sheltering for up to 12 months. Multi-agency response invoked, possible large scale evacuation required. Suddenness of failure of defences would not be possible to predict. Tidal inundation would be rapid and wave impact would cause structural damage to properties. Impact on infrastructure includes: widespread disruption for 7-14 days, salt damage, road and bridge damage, debris and contaminated water supplies and pollutants from affected businesses. Rural impacts include: widespread livestock carcasses, waterborne disease. Sewage treatment works flooded. Numerous properties destroyed. Many more uninhabitable for 12 months.</p>	Medium	Significant	VERY HIGH

HL17	Local coastal / tidal flooding (in one Region)	Sea surge, high tides and/or gale force winds affecting the coastline and one Region, a defence system overtopped or failing at a single location. Localised impact with infrastructure affected and up to 1000 properties flooded for up to 14 days. Up to 10 fatalities, 150 casualties and up to 100 missing persons. Up to 20,000 people (including tourists) in coastal villages and towns evacuated from flooded sites. People stranded over a large area and up to 2,000 people in need of rescue. Up to 3,000 people needing assistance with sheltering for up to 12 months. Multi-agency response invoked with some local evacuation and cordoning off of affected areas. Tidal inundation would be rapid and wave impact would cause structural damage to properties. Impact on infrastructure includes: localised disruption for up to 7 days, salt damage, road damage, debris and contaminated local water supplies and pollutants from affected businesses. Rural impacts include: livestock carcasses, waterborne disease. Some properties destroyed and others uninhabitable for 12 months.	Medium High	Significant	VERY HIGH
HL18	Local / Urban flooding (fluvial or surface run-off)	A sustained period of heavy rainfall extending over two weeks, perhaps combined with snow melt, resulting in flash flooding and steadily rising river levels across entire counties and could threaten a large urban town. Localised flooding of 1000 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. There would be major impact on road and rail links, making them impassable for up to 5 days. Impact on infrastructure includes: some buildings collapse, water damage, road and bridge damage. Sediment movement and contamination of water supplies. Loss of essential services (gas, electricity & telecoms) to 20,000 homes for up to 14 days. Widespread disruption for 7-14 days, significant debris and pollutants from affected businesses. Up to 1,000 people needing assistance with sheltering for up to 12 months. Rural impacts include: widespread livestock carcasses, waterborne disease. Sewage treatment works flooded. Up to 50 Properties destroyed and many more uninhabitable. Up to 2,000 people needing assistance with sheltering for up to 12mths.	Medium	Moderate	HIGH
HL19	Local fluvial flooding	A sustained period of heavy rainfall extending over two weeks, perhaps combined with snow melt, resulting in flash flooding and steadily rising river levels within a region. Localised flooding of 100 to 1,000 properties for 2-7 days. Up to 5 fatalities and 50 casualties. Up to 5,000 people evacuated. Up to 200 people stranded over a large area and in need of rescue. There would be some impact on minor roads and some A roads and truck roads impassable for a time. Some main rail lines may need to be closed for a week (for repairs etc). Most water ways would be closed to traffic because of strong currents and high water levels. Impact on infrastructure includes, water damage, road and bridge damage. Sediment movement and contamination of local water supplies. Localised loss of essential services (gas, electricity & telecoms) to 5,000 for up to 14 days. Up to 250 people needing assistance with sheltering for up to 12 months. Substantial disruption within a county for 7-14 days. Significant debris and pollutants clear-up needed.	Medium High	Moderate	HIGH
HL20	Localised, extremely hazardous flash flooding	Heavy localised rainfall in steep valley catchments leading to extremely hazardous flash flooding (e.g. high velocities and depths). Likely that no flood defences in place. Probably no flood warning service available / or suddenness of event means timely flood warnings are not possible. Flooding of up to 200 properties. (NB: the outcome is essentially the same as H44 – dam or reservoir failure).	Low	Limited	LOW
<b>STRUCTURAL HAZARDS</b>					

HL21	Land movement (i.e caused by tremors and 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.	Medium	Moderate	HIGH
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	Minor	LOW
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	Limited	LOW
H44	Major reservoir dam failure/collapse.	Collapse without warning resulting in almost instantaneous flooding. Significant movement of debris (including vehicles) and sediment. Complete destruction of some residential and commercial properties and serious damage of up to 500 properties. Several thousand other properties could be flooded. Up to 200 fatalities. Up to 1000 casualties. Up to 50 missing persons and people stranded. Hazardous recovery amongst collapsed infrastructure and debris. Water supply to homes and business is lost. Up to 200 people need temporary accommodation for 2-18 months	Low	Minor	LOW
<b>HUMAN HEALTH</b>					
H23	Influenza-type disease (pandemic)	Each pandemic is different and the nature of the virus and its impacts cannot be known in advance. Previous pandemics have led to different outcomes. Based on understanding of previous pandemics, a pandemic is likely to occur in one or more waves, possibly weeks or months apart. Each wave may last around 15 weeks. Up to half the population could be affected. High number of cases could overwhelm health and other critical services, and adversely affect business and the economy. The advice is "business as usual wherever practicable" and "stay at home and phone the national 'flu line if you feel unwell". All ages may be affected, but until the virus emerges we cannot know which groups will be most at risk.	Medium High	Significant	VERY HIGH
H24	Emerging infectious diseases	Based on a SARS outbreak resulting in up to 100 fatalities and 2000 casualties.	Medium	Minor	MEDIUM
HL24	Localised legionella/meningitis outbreak	Localised outbreak of a disease which could cause up to 10 fatalities and up to 50 casualties.	Medium High	Limited	LOW
<b>Animal Health</b>					

H25	Non-zoonotic notifiable animal diseases (e.g. Foot and Mouth Disease (FMD), Classical Swine Fever (CSF), Bluetongue and Newcastle Disease (of birds))	The most serious disease in this category is FMD which drives the impact assessments. Assessment based on the need to cull and dispose up to 4 million animals across GB For FMD whole of Great Britain is likely to be declared a 'controlled area', prohibiting the movement of all susceptible livestock unless licensed. Loss of disease free status resulting in EU and third country import bans on livestock and livestock products from susceptible animals Disruption to rural communities, local economies, tourism and the environment. Significant impact on farm incomes and allied industries. For a major outbreak many rural industries, including tourism will be affected. This scenario is of a much greater scale than that seen in the outbreak in 2007.	Medium Low	Significant	HIGH
H26	Zoonotic notifiable animal diseases (e.g. Highly Pathogenic Avian Influenza (HPAI), Rabies and West Nile Virus)	The most serious disease in this category is Highly Pathogenic Avian Influenza which drives the impact assessments. Potential human health threat (203 deaths worldwide since December 2003), Assessment based on the need to cull and dispose up to 30 million across GB Loss of disease free status resulting in EU and third country import bans on live birds and poultry products. Local and regional control zones will be imposed prohibiting the movement of all poultry and captive birds unless licensed. Main impacts will be on the poultry sector and in particular on the welfare of birds and ability to move poultry to slaughter. There could be some disruption to rural communities, local economies, tourism and the environment.	Medium Low	Significant	HIGH
<b>Industrial Action</b>					
HL42	Loss of cover due to industrial action by workers providing a service critical to the preservation of life (such as emergency service workers).	A number of three day strikes with significant support over a two month period affecting a single emergency service.	Medium	Minor	MEDIUM
H30	Emergency services: loss of emergency fire and rescue cover because of industrial action.	A series of strikes by fire fighters takes place, spread over a period of two months, perhaps lasting up to 24 hours each.	High	Moderate	HIGH
H31	Significant or perceived significant constraint on the supply of fuel e.g. industrial action by contract drivers for fuel, or by effective fuel blockades	Some filling stations, depending on their locations, could start to run dry within 24 - 48 hours. Panic buying would exacerbate the situation. Replenishment of sites would take between 3 - 10 days depending on location	Medium	Moderate	HIGH
H33	Unofficial strike action by prison officers leading to a serious shortfall in the number of personnel available to operate and maintain control of prisons.	A single unofficial strike by around half prison officers lasting 24 hours	High	Minor	LOW
H35	Industrial action by key Rail or London Underground workers	Strike action resulting in the total shut down of either the London Underground or rail network on a national scale (e.g. action by key workers such as signallers) for more than 3 days. Greater impact if action occurs in a co-ordinated manor	Low	Minor	LOW
<b>International Events</b>					
H37	International security incident resulting in influx of British Nationals who are not normally resident in the UK.	Up to 10,000 British Nationals (BNs) returning to UK within a 4 -6 week period following conventional war, widespread civil unrest or sustained terrorism campaign against British and other Western nationals	Medium High	Minor	MEDIUM
H52	Influx of British Nationals from abroad following an outbreak of an infectious disease	Up to 200,000 British Nationals (BNs) returning to UK within a 4-6 week period following a following serious outbreak of an infectious disease overseas.	Medium	Minor	MEDIUM

	Industrial Technical Failure				
H38	Technical failure of a critical upstream oil/gas facility, gas import pipeline terminal, or Liquefied Natural Gas (LNG) import reception facility 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 11% 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 immediately so adversely affected given alternative means of supply	Medium Low	Minor	MEDIUM
H39	Failure of water infrastructure or accidental contamination with a non-toxic contaminant.	Loss of 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.	Medium High	Minor	MEDIUM
H40	No-notice loss of significant telecommunications infrastructure in a localised fire, flood or gas incident	Loss of telecommunications for up to 100,000 people for up to 72 hours.	High	Moderate	HIGH
H41	Technical failure of electricity network (Blackstart)	Total blackout for up to 3-5 days due to loss of the National Grid. 3 days is best time. If there is damage to the network (say from storms) this timescale could be extended up to 5 days. Possible loss of life support machines, civil unrest, no alarms, street lighting, gas heating, rail transport, water supplies and mobile (PMT) telecommunications etc. Back up generators available for limited time for individual business and emergency services in some instances.	Medium Low	Moderate	HIGH
H43	Telecommunications 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
H45	Technical failure of regional electricity network	Total shutdown of the electricity supply over an entire region of the UK occurring during the working week and lasting for 24 hours	Medium Low	Minor	MEDIUM
H49	Loss of drinking water supplies due a major accident affecting infrastructure.	Loss of or non-availability for drinking, of the piped water supply, for a population of up to 350,000 for more than 24 hours and up to two weeks	Low	Moderate	MEDIUM