

Accident and Amenity Risk Assessment

Data						Risk assessment				Action	
Environmentall y critical plant and infrastructure	Accident scenarios	Release	Pathway	Receptor	Harm	Probability of exposure	Consequence	Magnitude of risk	Justification	Risk management	Residual risk
Tyre reception and storage	Release of particulate matter (dusts)	Dust (particulate matters)	Air transport	Atmosphere	Aesthetic	Very unlikely	Very Insignificant	Trivial	Dust is managed within the process and clean air emitted from the building, therefore risk managed.	Provide suitable cleaning equipment (i.e. street sweeper)	Trivial
				Human population	Aesthetic impact, potential respiratory effects	Very unlikely	Very Insignificant	Trivial	Dust is managed within the process and clean air emitted from the building, therefore risk managed.	Provide suitable cleaning equipment (i.e. street sweeper)	Trivial
	Tyre fires	Heat and air pollution	Air transport	Atmosphere	Uncontrolled release of combustion emissions	Very unlikely	Very Significant	Trivial	Tyres will be stored in line with the Home Office / Scottish Office 'Fire Safety for Tyre Sites' Document 1995.	Fire extinguishers/hydrant systems endowed with water reserves Appropriate storage of tyres - control of moisture levels, management of stock to prevent piles being left for long periods of time, turning of piles at risk of spontaneous heating, minimise external heating e.g. shading from direct sunshine, control of ventilation by enclosure	Trivial
				Human population	Health risk from emissions	Very unlikely	Very Insignificant	Trivial	Tyres will be stored in line with the Home Office / Scottish Office 'Fire Safety for Tyre Sites' Document 1995. Site is not in the proximity of sensitive receptors (human residence, etc.)	Fire extinguishers/hydrant systems endowed with water reserves Provide adequate space for fire escapes Appropriate storage of tyres - control of moisture levels, management of stock to prevent piles being left for long periods of time, turning of piles at risk of spontaneous heating, minimise external heating e.g. shading from direct sunshine, control of ventilation by enclosure	Trivial
	Water pollution	Pollution of surface water run-off from tyre storage and site road.	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Water quality, aquatic flora and fauna (outfalls)	Acute effects: oxygen depletion and fish kill.	Very unlikely	Significant	Tolerable Risk	There is potential for some oil on the incoming tyres, however surface water from the storage area will pass through oil interceptors prior to discharge to public sewer	An oil interceptor will be fitted to the drainage line from the tyre storage area, prior to the surface water attenuation tank.	Tolerable
			Transport through soil/groundwater	Groundwater	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole.	Very unlikely	Very Insignificant	Trivial	No transportation of oil through soil/groundwater. Tyre storage is all on impermeable hard standing.	N/A	Trivial
Nitrogen storage tanks	Damage to nitrogen delivery pipework, valves, etc.	Release of nitrogen internally or externally	Emission of nitrogen to air. If within confined space leading to build up on nitrogen, displacing oxygen	Human - on site staff	The extremely low temperature of liquid nitrogen can cause severe burn- like damage to the skin either by contact with the fluid, surfaces cooled by the fluid or evolving gases. The hazard level is comparable to that of handling boiling water. Build up on nitrogen in confined spaces can displace air and cause asphyxiation.	Very unlikely	Very Significant	Moderate Risk	Nitrogen storage tanks and delivery pipework will be new and designed to avoid leakage. They will be owned and maintained by BOC as part of the nitrogen supply contract, in line with recommendations set out by the British Compressed Gas Association (BCGA) and the UK Health and Safety Executive (HSE). Nitrogen used in the process will be ventilated from the building by the plant and building ventilation system.	Nitrogen storage tanks, delivery pipework and ventilation system will all be regularly checked and maintained under the proactive maintenance scheme. Air extractors would be in place	Trivial
				Air quality	Negligible effect on local air quality	Unlikely	Insignificant	Trivial	Nitrogen storage tanks, delivery pipework and ventilation system will all be regularly checked and maintained under the proactive maintenance scheme, in line with recommendations set out by the British Compressed Gas Association (BCGA) and the UK Health and Safety Executive (HSE).		Trivial
	Vehicle impact with nitrogen tanks		Leakage from tanks or damaged pipelines	Human - on site staff	The extremely low temperature of liquid nitrogen can cause severe burn- like damage to the skin either by contact with the fluid, surfaces cooled by the fluid or evolving gases. The hazard level is comparable to that of handling boiling water.	Very unlikely	Very Significant	Moderate Risk	The tanks will be owned, designed and maintained, by BOC, to industry standards.	Vehicle bollards or crash barrier located around tanks to protect from vehicle impacts.	Trivial
Site Drainage System	Leakage of drainage system to ground	Surface water potentially with hydrocarbon contamination	Ground	Groundwater	Pollution of groundwater	Very Unlikely	Insignificant	Trivial	Drainage is not under pressure. There is minimal opportunity for leakage of significant quantity. Majority of the site is hard landscaping	N/A	Trivial
Air handling dust suppression unit	Filter failure	Release of particulate matter (dusts - externally)	Air transport and inhalation	Local Human Population - People walking past development/ residential housing located near River Rhymney approximately 230m east from proposed development	Nuisance to human health - respiratory irritation and illness	Very Low	Very Low	Trivial	Small quantity of dust produced that there would be negligible effect on operator and employees	Dust suppression system will be maintained in line with the Environmental Management System/ Site Management System Fail safe switch Daily checks for the air handling dust suppression unit Making sure the machinery design and location does not compromise ventilation Provide suitable cleaning equipment (i.e. street sweeper)	Trivial
Treatment process, within building	Noise and Vibration		Noise through the air and vibration through the ground.	Human Population (staff workers and nearby residents)	Nuisance, loss of amenity, loss of sleep.	Low	Low	Trivial	Noise assessment states that that potential noise emissions from the proposed facility has been undertaken and demonstrates that predicted noise levels are substantially lower than planning noise limits. As such the facility is not expected to generate noise impacts.	N/A	Trivial

Severity scale		Consequence			
		Very insignificant	Insignificant	Significant	Very significant
Probability	Very Unlikely	Trivial Risk	Trivial Risk	Tolerable Risk	Moderate Risk
	Unlikely	Trivial Risk	Tolerable Risk	Substantial Risk	Substantial Risk
	Likely	Tolerable Risk	Moderate Risk	Substantial Risk	Intolerable Risk
	Very Likely	Moderate Risk	Moderate Risk	Intolerable Risk	Intolerable Risk