

B7.1 Deployment Form Conceptual Site Model Risk Assessment

Source	Receptor(s)	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
The agent or process with potential to cause harm	What is at risk? What do I wish to protect?	The harmful consequences if things go wrong	How the receptor might come into contact with the source	Severity of the consequences if this occurs	Severity of the consequences if this occurs	The overall magnitude of risk	Basis of judgement	How can I best manage the risk to reduce the magnitude	Magnitude of the risk after management
Dust from collection, segregation, storage, treatment, disposal and overall handling of contaminated and un-contaminated materials and other materials arising from the Site Remediation and the Arisings Management	Site operatives, adjacent workers and adjacent ponds and fishermen receptors. SINC (400m), River Dee (570m) and Shotton Reed Beds (920m) designated sites.	Nuisance and harm via inhalation. Surface spoiling of water bodies.	Wind assisted – fugitive air borne dust	Medium	Medium	Medium	The site is in an industrial location. With some occupied works buildings in close proximity. The building within the redline boundary is empty and unused. 2 ponds are adjacent to the site but are of low ecological value. Designated sites are somewhat distant. There is potential for fugitive airborne particulates as a result of wind whip, materials handling / processing and movement of site vehicles across soiled haul routes.	Substantial stockpiles will be located away from sensitive receptors. Machinery undertaking particle size reduction to facilitate remedial action and material stockpiles will be located away from sensitive receptors. Hardstanding will be maintained across site haul routes (where applicable) for as long as practicable, and will be scraped/swept clean regularly. Haul routes will be damped down utilising a tractor towed bowser or equivalent as required. For the sake of sustainability encountered processed water may be used for dust suppression. Prior to use water will be deemed suitable via chemical testing and visual appearance. Appropriate site speed limits will be enforced. Effective vehicle cleaning including a jet wash as required. Jet wash bowsters with spray attachments or equivalent will be used to damp down stockpiles / haul routes as required. Consideration will be given to placement of debris netting/polythene sheeting if material stockpiles are to remain for extended periods. All plant will be modern and fitted with integral dust suppression technology. Site personnel will be fully trained and operate plant and equipment in accordance with manufacturers guidelines. A trained and responsible manager will be on site during working periods to maintain a logbook and carry out site inspections. Daily visual monitoring and monitoring with the use of a hand-held device will be undertaken by trained staff at boundary monitoring locations, with records maintained in accordance with company procedures. Static dust deposition (Frisbee) gauges will be deployed, for with data compared against the 200mg/m2/day boundary limits. Vehicles will be prevented from idling and all potentially dusty loads entering and leaving site will be covered.	Low
Noise and vibration arising from Plant, Machinery & Equipment.	Site operatives, adjacent workers and adjacent receptors, including the adjacent trainline. SINC (400m), River Dee (570m) and Shotton Reed Beds (920m) designated sites.	Nuisance due to noise and nuisance and structural damage due to vibration.	Airborne transmission & Ground Vibration	Medium	Medium	Medium	The site is in an industrial location. With some occupied works buildings in close proximity. The building within the redline boundary is empty and unused. A trainline is adjacent to the site but the public line is separated by sidings that belong to Tata. Designated sites are somewhat distant. No significant increase in noise at those locations is anticipated.	Strict adherence to agreed site working hours. Machinery undertaking particle size reduction to facilitate remedial action and other plant will be located away from site boundaries close to off-site workers and commercial buildings. If required, bunds of material will be placed around plant to provide a shield to attenuate noise propagation in the direction of receptors. Appropriate site speed limits will be enforced. Hard acceleration and idling vehicles/plant will be avoided. Site personnel will be fully trained and operate plant and equipment in accordance with manufacturers guidelines. A trained and responsible manager will be on site during working periods to maintain a logbook and carry out site inspections. Monitoring of site/activity noise levels will be completed based on a noise survey using a handheld noise monitors at the boundary locations. Data will be reviewed regularly in accordance with BS 5228-1:2009+A1:2014. Vibration monitoring will be connected to a Seismograph (Avatrace M80 or equivalent). The site manager and environmental scientist/technician will assess the data collected to determine whether further actions is required.	Low
Odour / VOCs from contaminated soils.	Site operatives, adjacent workers, recreational users of the ponds.. SINC (400m), River Dee (570m) and Shotton Reed Beds (920m) designated sites.	Odour/vapour tainting by VOCs of ambient air by volatilisation	Aerial transmission.	Medium	Low	Medium	The site is in an industrial location. With some occupied works buildings in close proximity. The building within the redline boundary is empty and unused. Designated sites are somewhat distant.	Monitoring of ambient air with a portable photoionisation detector (PID) will be undertaken during contamination excavation where odorous material is encountered. Only three hot-spots are anticipated. Odour monitoring will be undertaken throughout the works by way of the olfactory recording odour at the site boundary. Further investigations be undertaken as required, especially in the event of complaints. Additional monitoring will be established as required, this may involve the deployment of a photoionization detector and charcoal diffusion tubes as required. Any grossly contaminated soils encountered will be transferred to a quarantine area and sheeted, as required, to reduce potential emissions to atmosphere. Materials in quarantine will be retained until the results of additional testing are available. At this point materials will be removal to an authorised facility. Storage operations undertaken on the quarantine pads will	Low

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								also be monitored if odourous.	
Contaminated Soils – Migration to Ground Water / Surface Water	Groundwater / Surface Water (potentially impacting) SINC (400m), River Dee (570m) and Shotton Reed Beds (920m) designated sites.	Pollution of groundwater and surface water (ponds) resulting in ecological damage by contaminated run-off.	Groundwater	Low	Low	Low	No groundwater source protection zones (SPZs) are located at or in the vicinity of the site. Risk to groundwater is deemed negligible due to the type of impacted materials to be encountered / processed All materials to be processed are chemically suitable for use. 2 ponds lie south of the site. Designated sites are somewhat distant.	Existing hardstanding or impermeable surfaces will be maintained as long as possible. Work in accordance with requirements of the remediation strategy for 'hot-spots': All contaminated materials (failing to meet the re-use criteria) will be placed within an impermeable engineered containment bund with drainage blocked to prevent any potential for ingress of any wastewater run-off/leachate. As required, the engineered containment area will also be graded to fall with a shallow bund surrounding the plant, with a sump at the lowest end to collect intercepted run-off and any leachate (design indicative, regular water removal may be carried out instead of a sump installed). Sheeting, if required, of any segregated soils in lined quarantine area. All accumulated/collected water from contaminated areas will be subject to testing for off-site disposal. IBC storage of contaminated water with 110% bunded capacity). No treatment or stockpiling works are to be undertaken within 10m of an external waterbody or drainage run destined for discharge. Regular visual surface water monitoring to be carried out.	Low
Oil and fuel from fuel / oil storage and plant use.	Surface Water (Ponds) / Groundwater. (potentially impacting) SINC (400m), River Dee (570m) and Shotton Reed Beds (920m) designated sites. Future site users.	Suitability of soils in relation to future human use. Impact on ecosystems. Visual impact (nuisance) on ponds..	Loss to ground from tank failure / plant failure.	Medium	Low	Medium	2 ponds lie south of the site. Designated sites are somewhat distant.	Fuel tanks will be located within a bunded area designed to hold 110% of the liquids stored within the tanks and remote from vehicle movements to reduced potential collision damage. Spill kits will be located adjacent to the refuelling area and active operational areas. All identified drains and conduits with the potential to act as preferential pathway towards the ponds will be sealed (if indeed they are present)	Low
Personal injury from trespass.	Humans (unauthorised site presence)	Injury / death.	Tampering with equipment, fall from height and accessing foreshore.	Medium	High	High	A large (wider site) with points of access to the belligerent trespasser.	The site is fully secured with fencing. Out of hours security will be implemented. Access is only typically available via the Tata security gate. As required, additional fencing / segregation will be erected for specific work areas. COSHH chemicals to be secure from tampering.	Low
Use / Storage of reagents on site.	Operatives Surface Water (ponds) / Groundwater. (potentially impacting) SINC (400m), River Dee (570m) and Shotton Reed Beds (920m) designated sites. Future site users.	Chemical injury. Suitability of soils in relation to future human use. Impact on ecosystems.	Dermal contact / Ingestion / inhalation. Loss to ground.	Medium	Medium	Medium	Sensitizing chemicals / oils may be required to be used on-site. 2 ponds are to the south off-site but designated sites are somewhat distant.	All reagents will be stored according to the manufacturer's guidelines. Only authorised personnel will be in direct contact with the chemicals. Appropriate PPE/RPE will be worn at all times. Activities will be COSHH assessed and generally risk assessed. COSHH storage away from identified receptors. Spill kits to be made available.	Low
Pests	Site operatives and adjacent site users.	Nuisance to adjacent site users. Harm to human health.	Pests carrying transmissible diseases.	Low	Medium	Low	The site is within an industrial setting. Although the management of putrescible waste is not a Permitted activity. Welfare facilities hold food and food waste attractive to pests.	General wastes segregated according to classification and stored in approved skips. Skips and waste containers are regularly emptied to prevent the build-up of rubbish. Continual maintenance and cleaning operations to ensure the site and welfare are kept clean.	Low
Flood lighting	Wildlife. Bats.	Nuisance (light pollution)	Aerial.	Medium	Medium	Medium	The site is in an industrial setting.	During the dark working hours in the winter, site lighting will be provided as required. All posts will be kept away from the boundary of the site and facing inwards to prevent any nuisance light. These will not be working outside of the hours agreed by the local authority.	Low
All activities described above.	Ecology both locally and SINC (400m), River Dee (570m) and Shotton Reed Beds (920m) designated sites	Damage to ecology / biodiversity	Air and ground	Medium	Medium	Medium	The site has already been subject to clearance works. And this has been signed off by an ECoW. Bats are known to use the structure within the redline boundary. The area is known to be used for foraging Badgers. Ground nesting birds are a risk.	Prior to commencement of site activities and ecologist will confirm acceptability following an inspection. All remedial measures to follow best practice guidance and accord with the requirements of planning in regard to protected species, nesting birds, etc. Site inductions and specific tool-box talks will be given regarding biodiversity and an ECoW will be on call as required.	Low

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