

PLANNING ACT 2008
INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE)
RULES 2010

PROPOSED PORT TERMINAL AT
FORMER TILBURY POWER STATION

TILBURY2

TR030003

OPERATIONAL MANAGEMENT PLAN V3 -
CLEAN

TILBURY2 DOCUMENT REF:
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1 INTRODUCTION

The Port of Tilbury is committed to ensuring that it takes account of its obligations to ensure its operations and those of its tenants are managed to address the environmental impacts of Port related operations. This document deals with each of the following:

- Noise
- Air Quality and dust
- Waste
- Flood risk
- Pollution Control
- Contaminated land
- Hazardous Substances and Asbestos

This document explains how the potential impacts will be assessed and monitored once operational and how complaints and corrective actions will be dealt with.

It also provides information on how the potential impacts will be mitigated within the day to day operations of Tilbury2.

The measures set out in this document will apply to PoTLL's own operations and any tenants that operate any of the facilities within Tilbury2. For the purposes of this document, the measures that are said to apply to the RoRo terminal should also be considered to apply to the warehouse that is also proposed as part of the Tilbury2 proposals.

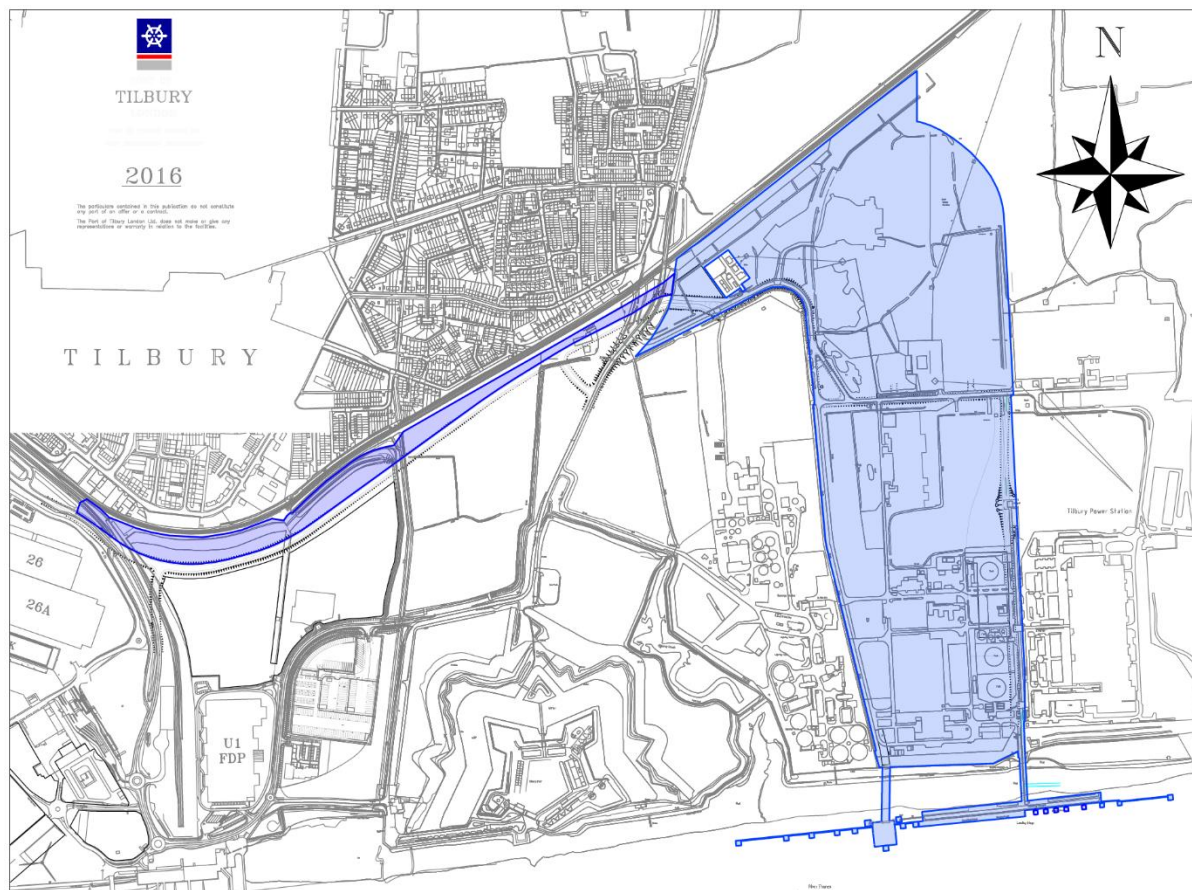
2 PLAN OBJECTIVES

The objectives of the OMP are:

- To set out PoTLL's commitment to the management and minimisation of operational impacts on the local community.
- To provide information on operational impacts and the way this will be managed.
- To provide information on the procedures for investigation of significant events that may impact on the local community.
- To provide a framework for the measurement and monitoring of any potential impacts on the local community.
- To describe methods to continue to research, develop and implement minimisation on any potential environmental impacts from our operations.
- To provide a framework for community input into the management and mitigation of operational impacts.

The framework for monitoring set out in this OMP relates closely to the predicted effects of the Tilbury2 proposals. As part of the environmental assessment process, a number of 'cumulative' projects have been identified, the environmental effects of which in the future could interact with the environmental effects of Tilbury2 creating and the potential for cumulative environmental effects. The monitoring proposed within this OMP will be designed to be equally effective in identifying the contribution of Tilbury2 should such cumulative effects arise, thereby ensuring that the mitigation proposals for Tilbury2 are fit for purpose and that the proper planning, design mitigation strategies of other projects in the vicinity can appropriately interact with Tilbury2 mitigation should such effects arise. By this approach, monitoring of cumulative effects will form part of the on-going monitoring regime.

3 AREA COVERED BY PLAN



4 COMPLAINT HANDLING AND INVESTIGATION PROCEDURE

4.1 The purpose of this procedure (as is also set out in the Operational Community Engagement Plan) is to describe the requirements for the receiving and distribution of incoming correspondence/emails and telephone complaints and to outline the methods of internal communication. The procedure will ensure that formal complaints in relation to the operations at Tilbury2 can be addressed and closed accordingly. The procedure will also facilitate suggestions for improving operational impacts.

4.1.1. The complaint would constitute a prolonged and significant failure by the Port in relation to its operations that has an impact on the local community.

4.1.2. The Asset manager of Tilbury2 or his designated representative will normally receive all incoming communication relating to operational impacts.

4.1.3. On receipt of the correspondence the applicable Asset Manager will:

- Examine the content and acknowledge receipt within 48 hours of receipt
- Seek advice from the SHEQ (Safety, Health, Environment and Quality) Manager for Tilbury2 as to the context of the complaint;
- Carry out an investigation (if required)
- Implement corrective action (if required)

- Undertake ongoing dialogue with originator
- Compile a formal letter or email reply with corrective actions and ensure this is closed with originator

All complaints will be held centrally by the Ports SHE department.



5 GENERAL PRINCIPLES TO BE APPLIED WITHIN TILBURY2

The following general principles will be applied within the PoTLL's own operations and those of its tenants at Tilbury2:

- Tenanted operations will be governed by general terms and conditions which include compliance with environmental legislation, and the need for environmental issues to be communicated to PoTLL to enable quicker resolution of environmental issues.
- All occupiers, whether PoTLL or otherwise, are governed by Health and Safety Legislation. This is covered by statute and administered through the various asset departments. It is overseen by the PoTLL's Health and Safety Department and the Asset Management Team.
- A range of environmental legislation and guidance documents (including permitting and Port byelaws) apply to Port operations, and will apply to Tilbury2, notwithstanding the controls that are also contained in this document; and these are enforced by the relevant regulatory authority.
- For example, the management of hazardous materials will be covered by the appropriate regulations such as COSHH and involve liaison with the Health and Safety Executive as necessary.
- In the course of normal operations Tilbury2 will not handle abnormal loads but should this be required then the Port or its tenants will liaise with the relevant Highways Authorities and Essex Police.

6 NOISE

INTRODUCTION

The following measures have been prepared to detail the measures that will be used by both the Port and its tenants to minimize noise emissions from Tilbury2 to avoid unnecessary disturbance to the residents of Tilbury Town and Gravesend. Noise modelling has indicated the need for a series of noise mitigation measures to address the potential for noise disturbance from the operations. PoTLL has committed to adopting all reasonable control measures and the following measures are proposed to enable delivery of this commitment once Tilbury2 is operational. This should be read in conjunction with the Environmental Statement for Tilbury2. These measures cover the following areas:

1. Noise management goals
2. Roles and responsibilities
3. Future improvements and new technologies
4. Procurement and operation of plant to minimize noise emissions
5. Noise Barriers
6. Specific measures for RO/RO operations
7. Specific measures for CMAT operations
8. Vessel Berthing procedures
9. Noise monitoring procedures (including trigger points and actions)

6.1 NOISE MANAGEMENT GOALS

Tilbury2 will operate 363 days per year 24 hours per day with plant and production facilities in operation within 500m of residential areas. As part of the operation of Tilbury2 PoTLL is committed to ensuring that both its own and its tenant's operations reach the following goals to minimize impact on the local community:

- To operate within the noise limits of the existing Port estate, and lower them where possible;
- To adopt practical noise control techniques; and
- To work towards continual improvement methods to improve noise control

Noise management is an ongoing process and will be based on the procedures set out in this plan but also adapted as opportunities arise to reduce noise. This will include reviewing the availability of newer quieter plant or other new technology that may improve noise emissions. This procedure will be updated as these opportunities become available and in use on Tilbury2.

6.2 ROLES AND RESPONSIBILITIES

All employees have a responsibility to ensure noise emissions are minimized as much as possible and all staff will be trained in the use of the noise management measures in this plan as part of their induction and ongoing training. The levels of responsibility for noise within PoTLL are shown in the table below. Tenanted operations will be expected to have similar reporting lines within their operations.

Person	Responsibility
Port Director	Overall responsibility for compliance with the DCO and ensuring noise levels are as low as possible.
Asset Manager	Responsibility for ensuring that compliance is maintained and ongoing review including reviewing and monitoring tenanted operations and dealing with complaints
Operations manager	Day to day implementation of the noise management measures within this Operational Management Plan
Port Engineering manager	Responsible for procurement and maintenance of equipment, and so will look to, where practicable, procure equipment which will cause low noise impacts. Also responsible for the maintenance of noise barriers and the review and adoption of new low noise technology in conjunction with equipment suppliers
Shift supervisor / Leading hand	Implementation of noise controls in relation to operations for the RoRo terminal including berthing operations.
SHE department manager	Assisting and providing guidance on noise complaints to the Asset Manager.
All staff	Compliance with the noise management measures within this Operational Management Plan including minimizing noise from individual operations and reporting and correcting bad practice

6.3 FUTURE IMPROVEMENTS AND NEW TECHNOLOGIES

All potential new technologies will be reviewed and considered for use at Tilbury2 as viable and practicable opportunities arise for equipment and methodologies to be replaced or amended, specifically with the aim of reducing noise. Amongst a number of things PoTLL and tenants will consider are:

- The use of low noise engines;
- Improved control systems for handling of containers so as to reduce the level of noise created;
- The ability to provide shore power to vessels as technology improves so vessel engines can be turned down when in port
- The installation of new warning alarms on plant with reduced noise levels (white noise and voice indication)
- The use of plant that has reversing alarms that measure background noise and adjust as necessary.

These are examples currently under review and will be implemented should they emerge as viable opportunities to improve noise levels in detailed design and in the on-going operation of Tilbury2.

6.4 PROCUREMENT AND OPERATION OF PLANT TO MINIMISE NOISE EMISSIONS

Wherever possible, inherently quiet equipment will be used. This will be achieved by the procurement of the latest equipment that meets the best noise emissions standards. The following are the levels of the mobile plant and equipment that are anticipated to be used on the RoRo terminal and the CMAT operations. The proposed equipment is included in the table below along with the maximum sound power levels.

Equipment	Sound Power Level
Reach stackers for container handling RoRo	109 dB
Tractor units for RoRo operation	85 dB
Fork lift trucks (CMAT)	79 dB
Front loading shovels (CMAT)	107 dB
Bulk dumper trucks (CMAT)	110 dB

Noise testing will be considered as part of the procurement of this equipment by PoTLL and its tenants and following delivery of new equipment as listed above. This will be a requirement on PoTLL's plant suppliers who maintain the plant and will be included in lease arrangements with tenants.

During operation of Tilbury2, noise will be mitigated as much as possible by the most efficient use of plant to minimise noise. This will include the use of the following measures by PoTLL and tenants:

- Only the required numbers of plant will be utilised on operations;
- When operations are reduced in scope or size the plant in use will reduce proportionately;
- Engines will not be left idling for extended periods of time when not in use;
- With the exception of being required for safe operations, the use of horns will be prohibited during night time hours;
- Plant alarms will be utilised and fitted as close to the ground on the plant as possible to mitigate noise whilst ensuring safe operation.
- Any customer vehicles arriving to load will ensure their engines are switched off whilst being loaded;
- The use of Best Practicable Means (as referenced in the Environmental Protection Act 1990) at all times.

6.5 NOISE BARRIERS

It is a requirement of the DCO that a number of sound barriers must be installed on the infrastructure corridor for mitigation purposes. These will be maintained by PoTLL on an ongoing basis.

6.6 SPECIFIC MEASURES FOR THE RORO TERMINAL

During RoRo operations, noise will be mitigated as much as possible. This will be undertaken by PoTLL by undertaking the following measures additional to those expressed above:

- Night time working will be minimised as much as possible by liaising with customers to pick up goods with a focus on daylight hours; subject to operational and commercial pressures
- Ongoing maintenance of internal port roads to maintain paving to a standard that limits the noise of rattle from vehicles and trailers.

6.7 SPECIFIC MEASURES FOR THE CMAT TERMINAL

The CMAT will be a tenanted operation and they will be expected to also minimise noise emissions. Whilst this will be stated within the lease agreements (see section 6 General Principles) the following additional requirements will be placed on the operator above and beyond those set out in the rest of this section 6:

- Construction of production facilities will give consideration to use of the latest plant for construction to minimise noise, and entry points to facilities will be located away from residential areas. This will include all conveyor systems which will deliver the bulk cargoes from the vessel to the storage area
- All mobile plant used on CMAT operations will conform to the measures set out in this document.
- 24 hour operations, including for vessel and train loading will be minimised as much as possible subject to operational and commercial pressures
- Ongoing maintenance of internal port roads to maintain paving to a standard that limits the noise of rattle from vehicles and trailers.

6.8 VESSEL BERTHING FACILITIES

The use of ships horns will be prohibited whilst berthed unless for a specific safety issue.

6.9 NOISE MONITORING AND MITIGATION PROCEDURES

The DCO creates a regime for the re-assessment, monitoring and mitigation of noise arising from the operation of Tilbury2.

6.10 INFORMATION SHARING

PoTLL will and will ensure that the CMAT operator will, provide Thurrock Council and Gravesham Borough Council with the following information:

- Details of the sound qualities of the mobile plant, vehicles and conveyors that will be used for all operations on the Tilbury2 site
- Details of the maintenance scheme for the internal roads on the Tilbury2 site.

7 AIR QUALITY AND DUST

INTRODUCTION

Certain operations within Tilbury2 have the potential to cause unnecessary disturbance to the residents of Tilbury Town and the surrounding environment, if not effectively managed. PoTLL recognises the need for a series of air quality and dust mitigation measures to limit the impact both from its own operations and those of its tenants' operations.

The following air quality and dust measures have been prepared to detail the measures that will be used by both PoTLL and its tenants to minimise emissions from Tilbury2, notwithstanding any specific requirements that apply under the appropriate regulatory regimes.

PoTLL is committed to adopting all reasonable control measures and the measures in this document are proposed as the means for ensuring delivery of this commitment once Tilbury2 is operational.

In considering the operational impacts from its own operations on local air quality, PoTLL has identified the primary sources of emissions to be the mobile plant used on the CMAT terminal and vehicles delivering trailers and containers to the RoRo operation.

With regard to dust emissions from the RoRo, bulk materials will be received at the aggregates berth, at the eastern jetty, while the Ro/Ro terminal is at the western jetty. A conveyor system will carry materials to the storage and processing area in the north of the site. A main silo close to the river (approximately 100 m in height), will be used for the storage of cementitious products for off-site transport.

The main tenanted operation within Tilbury2 is the CMAT facility. This will consist of a number of aggregate storage areas and production facilities both of which are primary sources both of emissions to air and dust, both in terms of storage and production of materials. The CMAT production facilities (expected to comprise cement batching, asphalt plant, block plant) will be subject to the conditions set out within an Environmental Permit, and thus do not have their own measures within this document. The tenants will be responsible for ensuring compliance with the conditions set therein to control emissions such that emission standards and limits are respected and statutory nuisance is not caused.

7.1 AIR QUALITY AND DUST EMISSION GOALS

Tilbury2 will operate 363 days per year 24 hours per day with plant and production facilities in operation within 500m of residential areas. As part the operation of Tilbury2, PoTLL is committed to ensuring that both its own and its tenant's operations reach the following goals to minimize impact on the local community:

- To reduce and limit airborne emissions from mobile plant operations;
- To adopt practical dust control techniques;
- To work towards continual improvement methods to improve air quality and reduce dust emissions; and
- To ensure all operations and facilities of the CMAT are built to the highest standards and are fitted with the latest technology to reduce emissions from operations and dust from the operations and storage areas.

Air quality and dust management is an ongoing process and will be based on the procedures set out in this plan. The plan will be adapted as opportunities arise to improve air quality and reduce dust emissions, or as changes in on site operations arise, as appropriate. This will include reviewing the availability of newer cleaner plant and or other new technology that may improve emissions and dust control. This procedure will be updated as these opportunities become available and in use on Tilbury2.

7.2 ROLES AND RESPONSIBILITIES

All employees have a responsibility to ensure pollutant/dust emissions are minimised as much as possible and all staff will be trained in the use of the air quality management measures in this plan as part of their induction and ongoing training. The levels of responsibility for air quality within PoTLL are shown in the table below. Tenanted operations will be expected to have similar reporting lines within their operations.

Person	Responsibility
Port Director	Overall responsibility for compliance with the DCO and ensuring dust/emissions are as low as possible.
Asset Manager	Responsibility for ensuring that compliance with the Operational Management Plan is maintained and ongoing review, including reviewing and monitoring tenanted operations and dealing with complaints.
Operations manager	Day to day implementation of the air quality and dust management measures within this Operational Management Plan.
Port Engineering manager	Responsible for procurement and maintenance of equipment, and so will look to, where

	practicable, procure equipment which will cause low air quality and dust impacts. Also responsible for the review and adoption of new low emission technology in conjunction with equipment suppliers
Shift supervisor / Leading hand	Implementation of air quality controls in relation to operations for the RoRo terminal including berthing operations.
SHEQ department manager	Assisting and providing guidance on complaints received in relation to air quality and dust to the Asset Manager.
All staff	Compliance with air quality and dust management measures within this document including minimising emissions from individual operations and reporting and correcting bad practice.

7.3 SITE LAYOUT, KEY ACTIVITIES AND SENSITIVE RECEPTORS

The northern half of Tilbury2 will comprise a new construction materials and aggregates terminal (CMAT), including: an asphalt plant, a block plant and a cement batching plant, an aggregates storage area, and an extension to the existing conveyor system (running along the eastern boundary of the site and linking to the aggregates jetty). The CMAT covers an area of approximately 4 ha.

The southern half of Tilbury2 is assigned for use as a RoRo terminal with associated container and trailer storage. These uses are not a significant source of dust and to an extent will act as a barrier to the off-site transport of dust from the northern half of the site.

Materials will be received at the aggregates berth, at the eastern jetty. It is not possible for the western jetty to be used due to the water depth requirement for aggregate transport vessels and connection with the existing ramp and conveyor. The existing conveyor system will be extended to reach the materials processing facilities, an aggregates storage area and a general storage area (to store vehicles and/or bulk materials). This will connect to a main silo close to the river (approximately 100 m in height), for the storage of cementitious products for off-site transport. The western berth will be exclusively for RoRo (i.e. containers and trailers), and is thus not a potential source of dust.

The proposed general storage areas in the north-west corner of the site (expected to comprise cars and potentially wood and steel and potentially, but less likely, bulk aggregates) and the proposed container and trailer storage and warehouse and storage areas designated in the southern half of the Tilbury2 site are not considered to be potential significant sources of dust.

Sensitive receptors with the potential to be affected by operational dust emissions include properties within 400 m of minerals operations within the site (i.e. the CMAT and storage facilities on site) and the infrastructure corridor. These include, but are not limited to, residential properties in the south and east of Tilbury (e.g. Sandhurst Road, London Road and Fort Road), Tilbury Fort, the Tilbury Marshes Local Wildlife Site and the proposed ecological compensation and mitigation area, which will be located immediately north-east of the site boundary beyond the rail track.

The proposed site layout ensures the benefits as set out below. As such no changes to layout can be made in detailed design (by PoTLL or any tenant) that would mean that these benefits are not realised.

- a sufficient water supply to meet the site demand for mitigation and damping through the Drainage Strategy.
- an internal road network that minimises haul route distances.

- a length of paved road after a wheel or vehicle washer before joining the public highway, to reduce the risk of trackout off-site.
- a separate paved parking area for off-site vehicles, such as staff cars, with no access to the working areas, to prevent track-out onto the public highway.
- a relatively long length of paved access (> 500 m) between the site entrance and nearest receptors.
- Trees and bushes to be retained as far as possible.

It should also be noted that significant areas of scrub and tree planting are proposed along the infrastructure corridor to provide both landscape and ecological mitigation (secured through the DCO) but which will also contribute to preventing transfer of dust off site.

7.4 FUTURE IMPROVEMENTS AND NEW TECHNOLOGIES

All potential new technologies will be reviewed and considered for use at Tilbury2, including specifically consideration of whether they can improve air quality and reduce dust emissions. Relevant measures that will be considered by PoTLL and its tenants include:

- Lower emission engines as they are developed;
- Improved dust control systems for handling of bulk cargoes;
- Ability to provide shore power to vessels as technology improves so vessel engines can be turned down in port, reducing emissions; and
- Adoption of electric vehicles as technology improves and makes this equipment viable for operational uses.

These are examples currently under review and will be implemented should they emerge as viable opportunities to improve plant/vehicle emissions performance and reduce dust emissions. In recognition of current Government policy regarding electric vehicles, PoTLL will include a number of charging points within the site for its operatives. In recognition of the Port of London Authority's Air Quality Strategy, PoTLL will keep shore power feasibility and other green technology options for shipping under review.

Tenanted and PoTLL operations that fall under the Environmental Permitting Regulations are required to apply Best Available Techniques (BAT). The regulator (the identity of which will be dependent on the facility proposed) will be responsible for ensuring the proposed design of the facility is in line with this requirement prior to issuing a permit, and that operations are controlled and facilities maintained to ensure ongoing compliance with any emission limits set in the permit.

7.5 PROCUREMENT AND OPERATION OF PLANT TO MINIMISE EMISSIONS

Wherever possible inherently low emission equipment will be used. This will be achieved by the procurement of the latest equipment that meets the best emissions standards. The following table sets out the emissions standards of the engines of the mobile plant and equipment that are likely to be used on the RoRo terminal and the CMAT operations. These all meet the latest EU emission standard requirements (Euro VI) for low emission engines.

Equipment	Emissions Standard
Reach stackers for container handling RO/RO	Euro VI/US Tier 4 Final
Tractor units for RO/RO operation	Euro VI/US Tier 4 Final
Fork lift trucks (CMAT)	Euro VI/US Tier 4 Final
Front loading shovels (CMAT)	Euro VI/US Tier 4 Final
Bulk dumper trucks (CMAT)	Euro VI/US Tier 4 Final

Equipment and vehicles will be maintained according to manufacturers' recommendations. A requirement will be placed on PoTLL and the tenant's plant suppliers, who maintain the plant, to ensure that when plant is replaced the latest low emission engines are made available.

The current Port of Tilbury contains materials handling and processing facilities and implements dust mitigation measures that are similar to those anticipated to be implemented at the proposed Tilbury2 site. As a minimum, material stockpile management, good housekeeping measures (including regular sweeping of roads), the sheeting of vehicles before leaving site and the application of strategically placed dust suppression systems (water cannons and misting sprays) will be in place to control emissions of dust across the site.

7.6 SPECIFIC MEASURES FOR RoRo TERMINAL

During RoRo operations, emissions will be mitigated as much as possible by optimising utilisation of plant to minimise emissions to air, including dust. This will include the following measures:

- Only required numbers of plant will be utilised on operations;
- Engines will not be left idling for extended periods when not in use;
- Any customer vehicles arriving to load will ensure their engines are switched off whilst being loaded; and
- Full 24-hour working will be minimised as much as possible by liaising with customers to pick up goods with a focus on daylight hours (subject to operational and commercial pressures) thus reducing plant operations and emissions as much as possible.

7.7 SPECIFIC MEASURES FOR CMAT TERMINAL

The following additional requirements will be placed on operation of the CMAT by tenants above and beyond those expressed in the rest of this Section 7:

- Construction of production facilities will give consideration to latest plant construction/design to minimise emissions from the plant and dust from the operations and storage areas. Placement of entry points to facilities will be located away from residential areas. This will include all conveyor systems which will deliver the bulk cargoes from the vessel to the storage area;
- The purchase, operation and maintenance of all mobile plant and production used on CMAT operations will conform to the requirements of this plan.
- The CMAT operator will conform to the same specific measures where applicable as those employed on the Ro/Ro operation described above;
- Dust suppression equipment for damping down stockpiles will be utilised within the storage areas (an example of which is shown in the photo below);
- Speed limit of 10 miles per hour to be applied on site to limit resuspension of dust;
- Wheel washes to be in place prior to exit onto site access;
- Road vehicle loads will be sheeted before leaving site;
- Heavier bulk products to be stored closer to the Site Boundary than lighter materials, which will be located as far from off-site sensitive receptors as reasonably practicable;
- Powdered products will only be stored within the on-site silo which is fully enclosed and delivered to sealed tanker for transport;
- Drop heights to be minimised where practicable;
- Enclosure of transfer points and conveyers where applicable, particularly where materials are dropped from height and/or are substantially agitated;
- A conveyor will be used to transfer aggregates thereby reducing vehicle movements and associated dust emissions from the transport and the resuspension of dusty material. Usage of the conveyor will be kept within the capacity of the machinery to minimize any spillages of material.
- Any spillages that occur will be cleared as quickly as possible;
- Procedures in place for mitigating dust on roadways such as permanent or hired-in sweepers and access to water bowsers;
- Agreed cleaning regime with dedicated team in place, including, as appropriate, regular sweeping, spraying of roads, cleaning of vehicles and equipment; and

- Areas of hardstanding, including terminal roads and dedicated staff parking areas, to include measures to minimise the potential for the transfer of mud and dusty materials on to the public highway by vehicles leaving site.



7.9 AIR QUALITY MONITORING PROCEDURES

Once the site is operational, regular visual inspections will be undertaken at the site boundary by the Operations manager (or suitably trained delegate) to ensure no visible emissions of dust occur beyond the boundary. These inspections will be carried out on a daily basis as a minimum, or more frequently where appropriate (for instance during dry and windy conditions).

Should visible dust be generated, the source(s) of the dust should be identified and the necessary corrective action should subsequently be taken. Each event, its cause and the action taken will be recorded in the site log book.

Separately, dust deposition monitoring will also be undertaken for a minimum of three months prior to construction and three months at the start of CMAT operations. The survey will be repeated at three years after commencement of operation (or earlier, if considered necessary by the environmental health officer at the local authority, Thurrock Council, and in discussion with Gravesham Borough Council, once the full scale of CMAT operations are in place).

Standard deposition techniques as recommended in the Environment Agency's Technical Guidance M8 and M17 will be applied¹. Dust deposition will be monitored using a passive DustDisc-Bracket (DD-B) depositional dust gauge passive monitoring system. This is a recommended method in the Institute of Air Quality Management guidance². It is an appropriate method for monitoring at nearby properties as it does not require a power supply and provides a good indication of dust deposition on horizontal surfaces such as window sills. It uses a clear adhesive dust collection 'sticky pad' which collects dust depositing from the air onto a horizontal surface; typically over weekly or fortnightly intervals.

¹ Environment Agency (2011) Technical Guidance Note (Monitoring) M8 Monitoring Ambient Air. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/301188/TGN_M8_Monitoring_Ambient_Air.pdf

Environment Agency (2013) Technical Guidance Note (Monitoring) M17 Monitoring Particulate Matter in Ambient Air around Waste Facilities v2. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/301206/TGN_M17_-_Monitoring_of_particulate_matter_in_ambient_air_around_waste_facilities.pdf

² http://www.iaqm.co.uk/wp-content/uploads/guidance/monitoring_construction_sites_2012.pdf

The mounting bracket allows the gauge to be easily fixed to upright supports such as hoarding or street furniture using long cable ties or 'jubilee' pipe clips at approximately 1.7 m above ground³. PoTLL staff will be trained in their correct usage.

The DustDisc gauge holder comprises a plastic disc with a recess for the DustDiscs and a wooden base with a 90° angle bracket. The DustDisc holders will be installed at unobstructed positions within reach to facilitate sample change over, so that the replacement sticky pads can be slid into place horizontally, but high enough to discourage tampering. Records will be kept of any apparent interference, in that eventuality.

MONITORING LOCATIONS

The selected monitoring locations will be based on consideration of receptor sensitivity and proximity to dust⁴ source, the orientation of the receptor relative to the source (noting the primary prevailing wind from the south-west and secondary prevailing wind from the east) and the availability of street furniture or other viable structures to which to attach the brackets.

Dust deposition monitoring will be restricted to locations that are potentially at risk from dust emissions from day to day operations at Tilbury2 and the off-site transport along the associated infrastructure corridor. In practice, and as discussed in Chapter 18 - Air Quality of the Environmental Statement, this will include sensitive locations within 400 m of the Site Boundary, such as Tilbury Fort, the closest residential receptors to the CMAT and other sensitive receptors (particularly those that are downwind (in the prevailing south westerly wind) of CMAT operations). Site boundary monitoring at locations closest to the largest magnitude dust sources will also be undertaken, to assist PoTLL in identifying when action is required to be taken to reduce emissions. This will include a location on the eastern site boundary, downwind (for a prevailing south westerly wind) of CMAT operations.

Given that Gravesend is located to the south of Tilbury2 and is more than 400 m from the Jetty and CMAT, dust deposition or other monitoring in the borough of Gravesham is not considered to be appropriate.

The number and type of dust deposition monitoring locations, will be agreed with the environmental health officer at the local authority, Thurrock Council, and in discussion with Gravesham Borough Council.

MONITORING FREQUENCY AND DURATION

The duration of each survey (baseline, upon opening of the CMAT and three years post-opening of the CMAT) will be a minimum of three months. A robust three-month data set must be collected for review on each occasion, taking into consideration any periods of missing data.

The survey periods should be during the summer months (April to September), when conditions are drier and dust emissions more likely to arise. The survey period should also be reflective of the range of wind directions that affect the local area and in particular the prevailing southwesterly winds. Meteorological data for the survey period should be analysed and, where appropriate, the survey period extended.

Dust deposition measurements will initially take place at fortnightly intervals. If it is found that the results obtained are below the detection limit of the gauges, monthly sampling intervals

³ Stockholm Environment Institute (1995) Protocol for using the dry Frisbee (with foam insert) dust deposition gauge. SEI-Y, York.

⁴ The terms dust and particulate matter (PM) are often used interchangeably. This OMP is based on IAQM minerals guidance (2016), where the term 'dust' is used to include the particles that give rise to soiling as well as to human health and ecological effects.

would then be adopted for the remaining monitoring duration to provide a more robust indication of ambient conditions. Conversely, if the initial results suggest the gauges are becoming quickly saturated, then weekly sampling intervals should be adopted for an interim period (such a situation would also indicate dust mitigation action is required).

The suitability of the dust monitoring regime will be reviewed in the light of the initial post opening results. Any potential revision to the dust sampling location or methods, should that be thought necessary, will be agreed between PoTLL and Thurrock Council, and in discussion with Gravesham Borough Council, before implementation.

It will be the responsibility of PoTLL staff to undertake the replacement of the exposed sticky pads with unexposed sticky pads at the required intervals, and to send the exposed pads to the supplier for analysis and interpretation of results.

ASSESSMENT OF RESULTS

The equipment supplier will undertake the analysis of the used sticky pads at their premises.

Assessment of dust coverage on the sticky pads is achieved using a computer-based scanning system whereby the deposited dust data are reported as the average of the exposed sampling area of the sticky pad in relation to the unexposed 'reference area'. The measurements obtained with the depositional gauge will be reported as two separate, but associated, values:

- Absolute area coverage (AAC%) – the presence of dust irrespective of colour; and
- Effective area coverage (EAC%) – the darkness of the dust or potential soiling caused by dust.

AAC% and EAC% are measurements of the visual effects of dust, irrespective of mass. AAC may reach 100% quite frequently and in most cases AAC will be higher than EAC for the same dust sample, this is due to most dusts (e.g. soil, sand and clay) not being very dark-coloured.

Dust impacts will be assessed by combining these criteria within the annoyance risk matrix shown in the table below. This provides an indication of the potential risk of dust annoyance, for example due to soiling of surfaces at neighbouring properties. Appropriate action will be taken by PoTLL (or its tenants where appropriate) to improve dust control at source if the results of the monitoring become 'High' or 'Very High' in accordance with that table.

DustDisc samples will also be analysed for dust deposition mass (mg/m²/day) for comparison with the custom and practice threshold in Environment Agency guidance M17 of 200 mg/m²/day. If the analysis reveals deposition rates above this threshold, then the potential source will be investigated and where appropriate, action will be taken by PoTLL or its tenants, where the source has been identified as the CMAT, to improve dust control at source.

If corrective action is taken by PoTLL or (in respect of the CMAT) its tenants to improve dust control at source in respect of dust annoyance or dust deposition rates, as required by the above, then dust monitoring must continue for a further three months from the date of the completion of the corrective action to determine if the corrective action has been successful.

The same process must then be followed in respect of dust annoyance and dust deposition results as is set out above until acceptable levels of both are achieved.

Site Action Levels for Sticky Pads with Combined EAC/AAC

	AAC%				
	Level 0 <80%/interval	Level 1 80 -95% /interval	Level 2 95 - 99% /interval	Level 3 99 - 100% /interval	Level 4 100% /interval

EAC%	Level 0 <0.5%/day	Very Low	Very Low	Very Low	Low	Medium
	Level 1 0.5 to <0.7%/day	Low	Low	Low	Medium	High
	Level 2 0.7 to <2%/day	Medium	Medium	Medium	High	High
	Level 3 2 to <0.5%/day	High	High	High	High	Very High
	Level 4 >5%/day	Very High	Very High	Very High	Very High	Very High

The method for sharing the results of the dust monitoring and interpreting the review findings will be agreed with the environmental health officer at the local authority, Thurrock Council, and in discussion with Gravesham Borough Council.

8 **WASTE**

8.1 **PURPOSE**

With effect from the 1st April 1992 the Environmental Protection Act 1990 introduced the law “Waste Management – The Duty of Care Regulations”. This requires that companies must, by law, take all reasonable steps to look after any waste they may have and to prevent its illegal disposal by others.

The purpose of this procedure is to outline the methods to be implemented to control the disposal of waste by PoTLL and its tenants in respect of Tilbury2.

8.2 **SCOPE**

This procedure applies to all areas of Tilbury2 that produce, import, store, transport or dispose of controlled waste.

8.3 **DEFINITIONS**

Controlled Waste Waste that is subject to legislative control in either its handling or its disposal. It includes domestic, commercial and industrial waste. They are regulated because of their toxicity, their hazardous nature, or their capability to do harm to human health or the environment either now, or at some time in the future.

8.4 **ROLES AND RESPONSIBILITIES**

Arrangements will be made with a suitable waste carrier(s) for the removal of shore waste and ships’ waste. On a day-to-day basis, PoTLL and the tenant’s Operational Managers will monitor the waste skips/bins and arrange for the collection of full skips/bins when necessary. They will also receive requests for the removal of ships’ waste and arrange for disposal through the appropriate waste contractor.

8.5 **PROCEDURE**

Storage of Waste

PoTLL or tenant managers shall ensure that within their areas of responsibility waste is:-

- Contained in such a way that it will prevent it escaping
- Stored safely and securely
- That the waste carrier reports to PoTLL's Engineering department so that transfer notes can be completed correctly, signed and filed.

Authorised Carriers of waste

Organisations or personnel authorised to remove waste from Tilbury2 are to be limited to Registered Waste Carriers.

Removal of Waste

Removal of Waste from Tilbury2

If waste is to be removed from Tilbury2, PoTLL or the tenant's Engineering Supervisor (as appropriate) shall ensure that:-

- Checks are carried out at annual intervals to confirm that the carrier/person taking the waste away is legally authorised to do so and has a valid waste carriers licence and that the site is authorised to take the waste.
- A 'transfer note' or consignment note containing a description of the waste is to be filled in and signed by both the waste producer and the waste collector.

NB. If regular collections are made, one transfer note (valid for twelve months) may be used.

Removal of General Waste Products from Tilbury2

General Industrial Waste

- General industrial waste such as cardboard, paper and wood are to be removed in open rubbish skips. A compactor should be used to store general waste, food waste and ships' garbage safely and securely.
- An adequate number of containers should be positioned throughout Tilbury2.
- General waste shall be removed from the site using an approved registered contractor (i.e. Approved by the Environmental Agency)

Sanitary Waste

- An approved contractor shall remove sanitary waste from the containers in the ladies toilets situated throughout Tilbury2.

Waste Mineral Oils

- Waste mineral oils comprising of engine oil, gearbox oil and hydraulic fluids shall be stored in a bunded area with an impermeable surface. They should then be removed from the waste oil tanks and these shall be taken away for reprocessing.
- Waste mineral oils shall be removed from site using an approved registered contractor.
- The tanks shall be emptied on an "as and when required" basis and levels are monitored by the engineering team.
- Empty oil drums should be sent away for recycling.
- Used oil filters and oily rags shall be disposed of in specially provided containers and are to be treated as Hazardous Waste.

Paper Waste

- Areas that produce large amounts of paper are required to send it away for recycling.

Waste Oil Interceptor Tanks

- All spillage should be collected in interceptor tanks.
- All surface drains and other drainage should flow into these tanks.
- The interceptor tanks shall be inspected and skimmed / emptied as necessary every three months.
- Waste oils shall be removed from site using an approved registered contractor.

Waste Toner Cartridges

PoTLL aid a local charity, St Luke's Hospice, to raise funds by providing the used toner cartridges to the Hospice who in turn receive a donation for every cartridge they recycle. Toner cartridges are collected in a container and once full are delivered to the hospice. This will be continued at Tilbury2.

Other Waste Categories

PoTLL and its tenants must develop managements processes for the handling of the following types of waste:

- Waste Electrical and Electronic Equipment (WEEE).
- Multifunctional devices.
- Other electrical waste.
- Medical Shps Waste (No sharps).
- Batteries.
- Lighting tubes/bulb.
- Hazardous Waste.

When describing this type of waste in any consignment note it must contain any information that might affect the handling of the waste.

Before the load is moved

The tenant or POTLL (as appropriate) should complete parts A and B of consignment notes. The white copy should be forwarded by first class post one week before the load is to be removed, this should give three clear working days' notice. It should be sent to the Waste Disposal Authority (WDA) in whose area the waste is to be deposited.

Vehicle arrives to collect

When the load is due to leave, the carrier completes Section C and the producer (tenant or POTLL) completes Section D of the consignment note. The blue copy is then sent to the relevant own waste disposal authority. PoTLL or the tenant also retains the green copy (minimum two years). The carrier takes the remaining copies with the load.

Carrier takes load to disposal site

On arrival the disposal site will complete Section E. The Carrier will retain the gold copy (minimum two years). The disposal site then sends the yellow copy to the producers waste disposal authority, which can then be matched with the blue copy. The site retains the pink copy.

Use of New Carrier for the Disposal of Waste

Before using a new carrier for the first time, a check should be made by PoTLL or the tenant with the Environment Agency (as appropriate) with which the carrier is registered to ensure that the registration is still valid, even if their certificate appears to be current.

Details of waste licence checks carried out shall be recorded for future reference.

Waste Bin Checks

Waste bins shall be checked by PoTLL or the tenant (as appropriate) on a weekly basis. Further checks may be carried out at their discretion.

The results of such checks shall be recorded on a Waste Bin Check Sheet the level of waste present in each bin and check the correct waste is being deposited.

During inspection of the waste bins, any hazardous waste identified is to be removed from the bin and is to be disposed of accordingly. Depending on the nature of the hazardous waste the entire bin / skip must be disposed of as hazardous waste.

Upon completion of a waste bin check, PoTLL or the tenant (as appropriate) shall arrange for a Waste Carrier to collect any waste bins that need to be emptied.

Ships Waste

The vessel will be requested to complete a Port Waste Management Notification Form which is available and completed on line by the Agent onto IPOS (Ports Computer system) declaring the following waste that has been disposed of whilst alongside the Tilbury2 quay.

- Waste Oils in m3 including:
 - Sludge
 - Bilge Water
 - Other

- Garbage (kg) including:
 - Food
 - Plastic
 - Other

- Cargo - Associated waste
- Cargo - Residues

The form requests details of the following for each commodity:

- Amount of waste to be delivered
- Maximum dedicated storage
- Amount of waste to be retained on board
- Port where remaining waste will be delivered
- Estimated waste to be generated before next Port of call

The form should be completed 24 hours prior to the vessel arrival for further processing.

At three monthly intervals, the Harbour Master shall complete a report detailing quantities of ships waste disposed of at Tilbury2. The completed report is retained by him and is available to send to the Planning and Environment Department – Port of London Authority if so required.

8.6 INFORMATION, INSTRUCTION, TRAINING & SUPERVISION

Information on waste management will be delivered at induction for new staff supported by e-learning packages and tool box talks as required to ensure changes in legislation are communicated to all staff.

9 FLOOD RISK AND WATER RESOURCES

9.1 FLOOD RISK

No permanent structures or buildings are to be built within 16 meters of the existing flood wall unless by specific agreement of the Environment Agency. As part of on-going operations PoTLL and any tenant will cooperate fully with any flood testing and provide full access for any works to the flood wall that will need to be carried out by the Environment Agency.

9.2 WATER RESOURCES

The tenant and PoTLL must also carry out the following measures in operating all areas of Tilbury 2:

- Bunding of potential contaminant sources such as tanks and excavated soils, where appropriate, in accordance with the Control of Pollution (Oil Storage) (England) Regulation 2001
- Obtain appropriate permits in relation to surface water and groundwater;
- Maintain ordinary site machinery in good working order to minimise the risk of leaks and use of drip trays where necessary;
- On-site treat water used for aggregate washing activities

9.3 MAINTENANCE DREDGING

Water injection dredging should be undertaken during ebb tide only.

10 POLLUTION CONTROL

10.1 PURPOSE

This procedure provides for the identification and, where possible, the permanent rectification of any pollution condition that might adversely affect the environment on Tilbury2. The procedure includes details of spill management. As Tilbury2 is located on the River Thames the responsibility for marine spills will remain the responsibility of the Port Of London Authority. .

10.2 SCOPE

This procedure encompasses the actions that PoTLL must take in relation to pollution and spills.

Tenants at Tilbury2 will be expected as part of their contracts to have their own spill response procedures and equipment, including the use of spill kits where necessary. Such procedures must be in general accordance with this procedure.

This procedure provides for dealing with spills, however in respect of general pollution control general both PoTLL and tenants will be required to operate the site in accordance with Best Available Techniques as set out in the following documents:

CIRIA, Publication C736 Containment Systems for the Prevention of Pollution: Secondary, tertiary and other measures for industrial and commercial premises, 2014.
Environment Agency, 2013 - Groundwater protection: Principles and practice (GP3)
International Labour Office, Safety and Health in Ports, 2005.
Environment Agency 2017 – Oil Storage Guidelines

10.3 DEFINITIONS

Environmental Incident	Onsite release of a pollutant in sufficient quantity that could cause land, water or air contamination, which requires containment and recovery.
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10.4 ROLES AND RESPONSIBILITIES

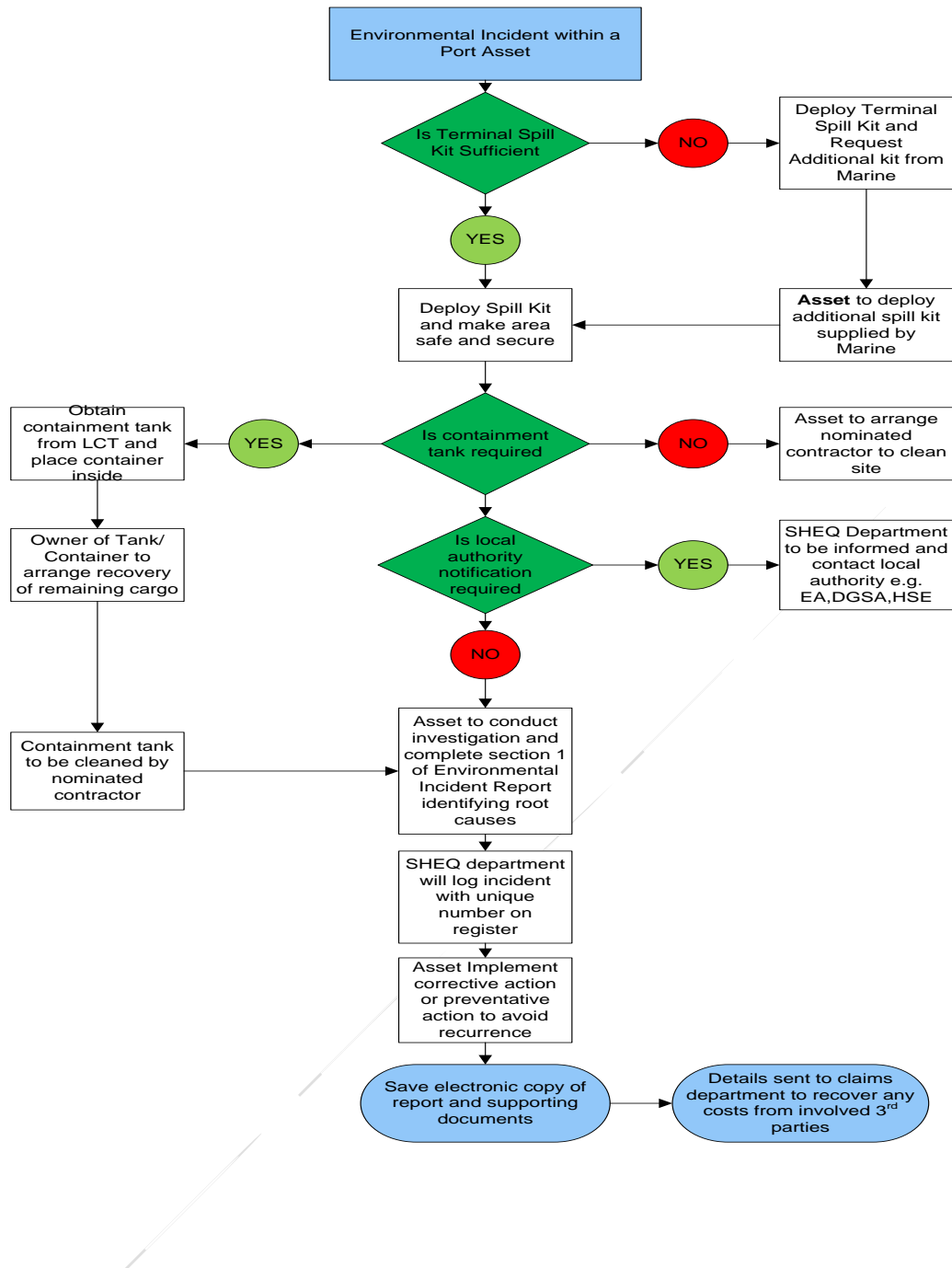
PoTLL Senior Asset and Asset Managers/Department Heads are to ensure that investigations of significant incidents are implemented and that root cause analysis is undertaken to prevent future recurrences, and ensuring that there are sufficient spill kits available on the Tilbury2 site.

Operations Managers, Supervision and Employees of PoTLL are to ensure that significant incidents which could affect the environment are reported and acted upon following emergency procedures and that a full investigation is undertaken to identify the root causes.

PoTLL's SHE Department should verify the reports of incidents and log the records accordingly.

The Port Police will be first responders for any spillages, to be backed up by PoTLL's engineering teams who will have additional backup spill kits. Additional staff may be called upon to provide support in dealing with the spill.

10.5 PROCEDURES



10.6 INFORMATION, INSTRUCTION, TRAINING & SUPERVISION

Tool box talks and e-learning should be provided to all employees who are designated as spill responders.

11. CONTAMINATED LAND AND GROUND CONDITIONS

11.1 Introduction

Land Contamination describes the ground and groundwater quality conditions at the site. Contamination can be present as a result of naturally occurring substances, as well as current or former industrial uses, which may have a legacy of contamination from the operational uses, or from direct or indirect events such as accidents or spills.

11.2 PROCEDURE

The construction Health and Safety File for Tilbury2 will detail residual risk from land contamination, if any.

Should any works during operations require the breaking of ground PoTLL or the tenant (as necessary) will consult the construction Health and Safety file and related risk assessments to identify if any pollution linkages exist and what if any mitigation measures would need to be deployed during the works.

If required, Port Engineering may employ consultants to conduct further Land Contamination Risk Assessments prior to such works to identify if any pollution linkages arise from the proposed works and what mitigation measures should be implemented.

PoTLL and any tenant must undertake the following measures as part of the Tilbury2 operations:

- Any mitigation measures determined to be necessary and implemented during the construction process, e.g. gas protection measures within buildings and / or capping layer, must be continued and maintained.
- As set out in the Drainage Strategy, the drainage system of the RoRo must be zoned with shut-off valves located downstream of each subzone.
- Best Available Techniques must be utilised to ensure that soil erosion is minimised.
- Hazardous material containers must be inspected on a regular basis to identify any leaks / spills as soon as possible; if any leaks are found then a bunded trailer (or similar device) will be immediately be deployed to contain any spillages.
- Implementation of appropriate pollution incident control e.g. spill kits in the event of accident spillages / leaks from equipment on the pontoon

12 ASBESTOS

12.1 PURPOSE

The purpose of this procedure is to provide a framework to manage all particular Asbestos Containing Materials (ACM) within Tilbury2 as detailed within the scope. This procedure is to assist in preventing exposure of employees and the local community to asbestos within Tilbury2 at all locations.

12.2 SCOPE

This procedure will apply to PoTLL operations. Tenanted operations will develop their own procedures, but they must be in general accordance with this procedure.

12.3 DEFINITIONS

ACM Asbestos Containing Materials.

Asbestos Co- The Asbestos Co-ordinator will ensure that PoTLL) is compliant by

ordinator	managing the ACM. To achieve this they will conduct any necessary surveys and provide an asbestos management plan. This function is normally a contracted service due to the competency and accreditation required to fulfil the role.
Asbestos Types	<p>There are three main types of asbestos found, these are commonly called:</p> <ul style="list-style-type: none"> • Blue Asbestos (Crocidolite); • Brown asbestos (Amosite); and, • White asbestos (Chrysotile). <p>All of which are hazardous.</p>
Duty holder	PoTLL are duty holders where there is an obligation of any extent in relation to the maintenance or repair of non-domestic premises.
HSE	Health and Safety Executive.
LAW	Licensed Asbestos Work. Certain types of work with ACM that can only be completed by those who have a licence issued by the HSE.
Nominated site contact	To facilitate access to sites, distribution and publication of the asbestos register and co-ordination between Forth Ports Management and the Asbestos Co-ordinator. The designation of the nominated site contact should be recorded in the relevant risk profiles under the duty holders section.
NLAW	<p>Non-Licensed Asbestos Work, work with ACM which meets the following conditions and does not require a HSE Licence:</p> <ul style="list-style-type: none"> • Condition 1 – the exposure to asbestos of employees is sporadic and of low intensity; and <p>Condition 2 – it is clear from the risk assessment that the exposure to asbestos of any employee will not exceed the control limit</p>
NNLW	<p>Notifiable Non-Licensed Asbestos Work. If NLAW does not meet the following condition:</p> <ul style="list-style-type: none"> • Condition 3 <ul style="list-style-type: none"> ▪ The work falls into one of the following categories: short, non-continuous maintenance activities in which only non-friable materials are handled; ▪ removal without deterioration of non-degraded materials in which the asbestos fibres are firmly linked in a matrix; ▪ encapsulation or sealing of ACMs in good condition; and, ▪ Air monitoring and control, collecting and analysing samples to establish whether a specific material contains asbestos. <p>The following additional requirements for NLAW apply making it NNLW,</p> <ul style="list-style-type: none"> • notify the work with asbestos to the relevant enforcing authority; • designate the area where work with asbestos is being undertaken; • ensure medical examinations are carried out for workers doing NNLW; and, • Maintain health records for employees doing NNLW.

Management Survey	<p>The Management Survey is required to manage ACM during the normal occupation and use of premises.</p> <p>The Survey must locate ACM that could be damaged or disturbed by normal activities, by foreseeable maintenance, or by installing new equipment. It involves minor intrusion and minor asbestos disturbance to make a Materials Assessment.</p>
Premises	Includes buildings, basements, cellars, tunnels, vessels, mobile plant, fixed plant, underground services, lighting towers, substations, and structures.
Refurbishment and Demolition Survey	This survey is needed before any refurbishment or demolition work is carried out on premises and is used to locate and describe, as far as reasonably practicable, all ACM in the area where the refurbishment work will take place, or in the whole premises if demolition is planned. The survey will be fully intrusive and involves destructive inspection to gain access to all areas with sampling and analysis to confirm the presence or absence of ACM. A refurbishment and demolition survey may also be required in other circumstances, e.g., when more intrusive maintenance and repair work will be carried out or for plant removal or dismantling.
Soil and made ground Survey	<p>A survey to identify asbestos in soil or made ground which is to be subject to development or construction work.</p> <p>It is only required where there is a reasonable expectation that asbestos could be present and could present a risk to workers during development or construction work onsite.</p>
SHE Department	Department providing Safety, Health, and Environment, advice and support to the business.

12.4 ROLES AND RESPONSIBILITIES

Under the regulations PoTLL as the “Duty holder” has the duty to manage asbestos in non-domestic premises. It requires duty holders to identify the location and condition of asbestos in non-domestic premises and to manage the risk to prevent harm to anyone who works on the building, or to building occupants.

Senior Managers, having overall responsibility for the Operations of Tilbury2, must ensure that Managers under their control fully understand the SHE Management system and are responsible for ensuring that all department and line managers / supervisors have resources to ensure AQM are identified and managed and shall:

- ensure anyone within their area of control who is at risk of coming into contact with AQM is made aware of its location, this should include any 3rd parties;
- ensure for any task where there is the possibility of disturbing AQM that the hazards and controls are identified in the task based risk assessments;
- ensure all requests for building maintenance work are requested through the relevant central service of the Port / Civil Engineer or Engineering Managers;

- where there is not a central service available, the Port / Asset / Department Manager will ensure the duties of Port / Civil Engineer / Engineering Manager are fulfilled;
- ensure the Asbestos Co-ordinator completes an Asbestos Management Survey;
- ensure the Asbestos Management Plan is complied with;
- ensure the Asbestos Co-ordinator completes an annual review of the Asbestos Management Survey; and,
- ensure any notifiable work is submitted to the HSE.

Port / Civil Engineer / Engineering Managers shall:

- ensure the Asbestos Co-ordinator completes an Asbestos Management Survey;
- ensure the Asbestos Management Plan is complied with;
- ensure the Asbestos Co-ordinator completes an annual review of the Asbestos Management Survey; and
- ensure any notifiable work has been submitted to the HSE.

Approved appointed Asbestos Co-ordinators shall assist the duty holder for ACM within Tilbury2 at all locations. Where the duty holder appoints a third party to undertake this role they can assess if they have adequate experience and training by checking that they are accredited by a recognised accreditation body as complying with BS EN ISO/IEC 17020 to undertake surveys for ACM. The United Kingdom Accreditation Service (UKAS) is currently the sole recognised accreditation body in Great Britain. In addition, they should meet the criteria for an approved supplier for PoTLL.

The Asbestos Co-ordinators shall:

- ensure that all premises within PoTLL's operations in Tilbury2 which might contain ACM as a minimum have a Management Survey;
- with any nominated site contacts ensure risk assessments are completed for all ACM;
- ensure Asbestos Registers are maintained to include **all** premises for which Forth Ports are duty holders including unoccupied buildings; and,
- Prepare an Asbestos Management Plan to manage the risk and ensure these are put into effect (See *Asbestos Management Plan HSOP04G4#01*).

A nominated site contact shall work with the Asbestos Co-ordinator to ensure ACM are managed within Tilbury2 in line with the above, the nominated site contact will facilitate access to sites, distribution and publication of the asbestos register and co-ordination between PoTLL Management and the Asbestos Co-ordinator.

The Asbestos Co-ordinator and Nominated Site Contact shall have the required resources, skills, training and authority to fulfil these roles.

The Asbestos Co-ordinators / Nominated Site Contact representative shall ensure any premises which might contain ACM and are due for renovation / demolition are surveyed against a refurbishment and demolition survey criteria.

All Port / Asset and Department Managers shall comply with the requirements detailed within the Asbestos Management Plan.

12.5 PROCEDURE

The procedure for managing ACM is described in Flowchart 1, however, there are some general principles that support the procedure:

- all presumed or confirmed ACM shall be maintained in a good state of repair or removed;
- anyone who is likely to disturb or come into contact with ACM must be informed about its condition and location (this includes 3rd parties);
- If work is due to take place where ACM might be found, and a suitable asbestos survey has not been completed, the work must be postponed until a suitable survey has been undertaken and results received. Risks must thereafter be assessed, managed and controlled;
- When considering using an area of ground for development or construction activity the potential for asbestos in the ground which may present a risk to workers must be investigated.
- Before any site surveys or samples are required to be undertaken a table top exercise should be conducted looking at past asbestos industrial use of the site such as, asbestos product manufacture, high temperature industrial processes heavy manufacturing industries, power stations, shipyards. In addition, previous history of handling asbestos products as cargo, waste storage, transfer or landfill sites, demolition waste, fly tipping incidents, or the demolition sites of buildings constructed prior to the year 2000 must also be considered. Reference should also be made to the records and recommendations set out in the asbestos remediation strategy and verification plan that are required pursuant to the Construction Environmental Management Plan and any necessary control measures implemented;

If the table top exercise does not identify a potential for asbestos on site then no further action is required,

If the table top exercise identifies a reasonable expectation that asbestos could be present, a risk assessment is required and will involve a soil and made ground survey to identify the presence of asbestos and the control measure required if asbestos is found.

- Determining whether any work with asbestos is Licensed (LAW), Non-Licensed (NLAW) or Notifiable Non-Licensed (NNLW) will depend on the type of work, the type of asbestos and its condition. To assist with determining these types of work, see Flowchart 2 – Working with Asbestos;
- **Licensed Asbestos Work (LAW)** – The majority of work with ACM is licensed and only external competent HSE Asbestos Licensed Contractors may conduct Licensed ACM work;
- All licensed work must be notified 14 days in advance to the HSE;
- **Non-Licensed Asbestos Work (NLAW)** - The only exceptions to having to use Licensed contractors is if:
 1. The exposure of employees to asbestos fibres is sporadic and of low intensity. Exposure cannot be considered to be sporadic and of low intensity if the

concentration of asbestos in the air is liable to exceed the peak level, 0.6 fibres per cubic centimetre (f/cm³) measured over 10 minutes (*Managing and working with asbestos, Control of Asbestos Regulations 2012 Approved Code of Practice and Guidance Regulation 2(4) 27 page 15*); and,

2. It is clear from the risk assessment that the exposure of any employee to asbestos will not exceed the control limit of (0.1 f/cm³ averaged over 4 hours (*Control of Asbestos Regulations 2012, Regulation 2 Interpretation, "Control Limit"*)); and,
3. The work involves:
 - a. Short, non-continuous maintenance activities. Work can only be considered as short, non-continuous maintenance activities if any one person carries out work with these materials for less than one hour in a seven-day period. The total time spent by all workers on the work should not exceed a total of two hours; or
 - b. Removal of materials in which the asbestos fibres are firmly linked in a matrix; or
 - c. Encapsulation or sealing of asbestos-containing materials which are in good condition; or
 - d. Air monitoring and control, and the collection and analysis of samples to ascertain whether a specific material contains asbestos.

Notifiable Non-Licensed Asbestos Work (NNLW) – Some types of non-licensed asbestos work have additional requirements. These are as follows:

- a) All NNLW must be notified in advance to the HSE. There is no minimum notice period for NNLW;
- b) A register (health record – non confidential) of NNLW must be kept for each employee exposed to asbestos. This must include:
 - the nature and duration of work with asbestos and estimated exposure for each individual worker; and
 - Dates of the worker's medical examinations (by 30 April 2015).
- c) By 30 April 2015, all workers carrying out NNLW will need to have had an appropriate medical examination. Examinations will then need to be repeated **at least every 3 years**, as long as the worker continues to do NNLW; and,
- d) From 1 May 2015, employees carrying out notifiable non-licensed work with asbestos for the first time will need to have an examination before they can commence. Examinations will then need to be repeated **at least every 3 years**, as long as the worker continues to do NNLW.

No **Notifiable** Non-Licensed Asbestos Work (NNLW) will be undertaken by PoTLL's employees and must instead be undertaken by a competent Contractor (i.e. trained in non-licensed asbestos work) and using effective controls, including minimising the number of people potentially exposed.

Risk Assessment

For those Ports / Departments that have identified a requirement to undertake NLAW a suitable and sufficient risk assessment of the risk created by the likely exposure. The risk assessment should be job specific and consider the full scope of the work, it should include:

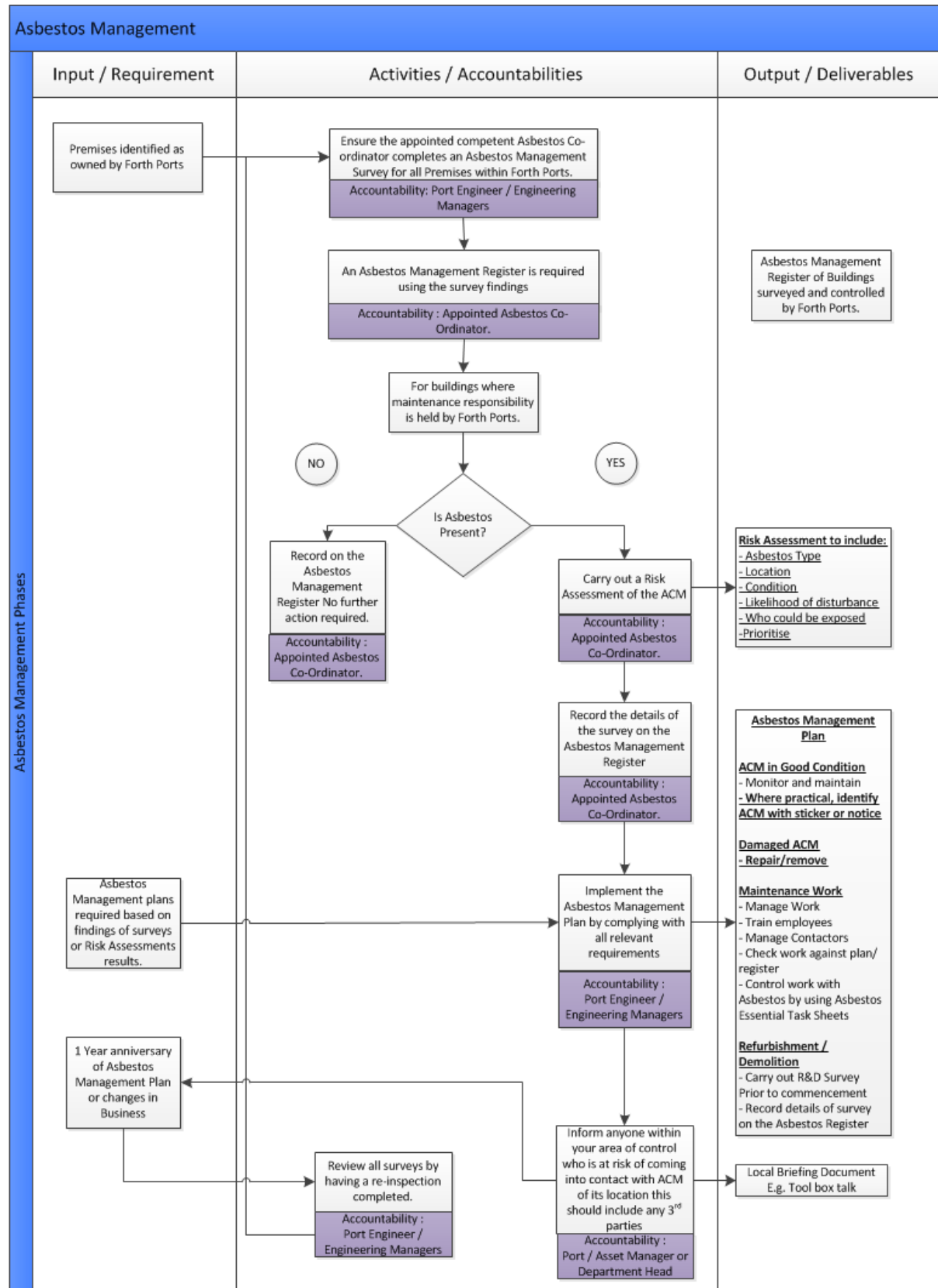
- a statement of why the work meets the criteria, i.e. exposure of any employee to asbestos will not exceed the control limit (0.1 f/cm³ averaged over 4 hours) and meets the criteria of item 3 in the NLAW section above;

- the expected scale and duration of the work being carried out;
- a description of the type of asbestos and the results of any survey or analysis;
- a description of the quantity, form, size, means of attachment, extent and condition of the ACM present;
- the steps taken to control exposure to the lowest level reasonably practicable;
- control measures for emergencies;
- the procedures for selection, provision, use and decontamination of personal protective equipment and respiratory protection equipment; and,
- Control measures for other non-asbestos hazards e.g., working at height, confined spaces.

For any work involving asbestos, including maintenance and survey work that may disturb it, the written plan of work which details the work, and the actions to control risk and prevent harm, (See Plan of Work Guidance HSOP04#G5).

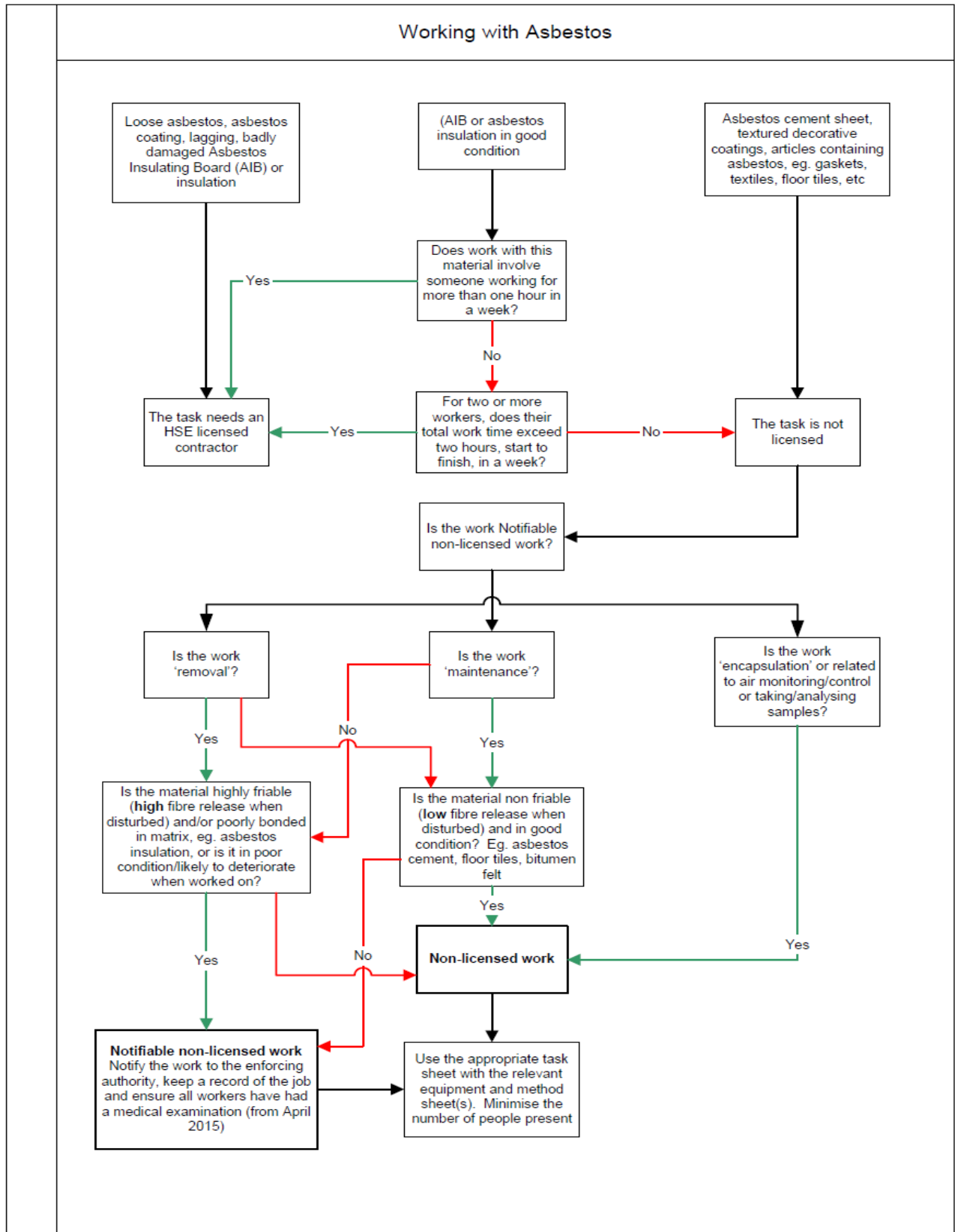
Asbestos Essentials task sheets found on the HSE website at: <http://www.hse.gov.uk/asbestos/essentials/index.htm>, must be consulted for advice on relevant effective controls.

Flowchart 1

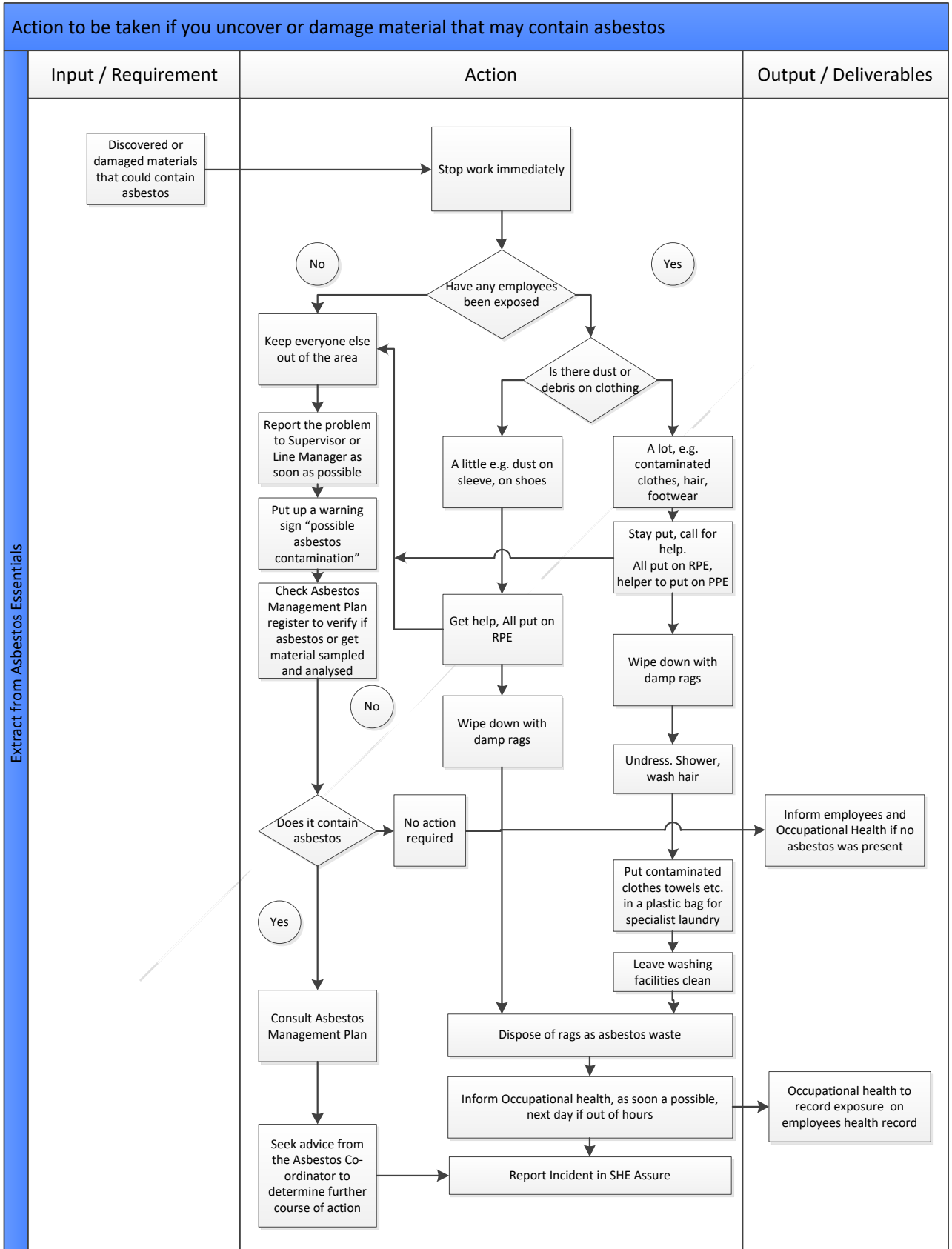


Asbestos Management Phases

Flowchart 2



Flowchart 3



Extract from Asbestos Essentials

12.6 INFORMATION, INSTRUCTION, TRAINING & SUPERVISION

PoTLL is required to make sure that anyone liable to disturb asbestos during their work and those who supervise such employees receive the correct level of information, instruction and training to allow them to carry out their work safely and confidently without risk to themselves or others.

This includes, but is not limited to:

- employees undertaking general maintenance;
- plumbers;
- electricians;
- painters and decorators;
- heating and ventilation Engineers;
- MIS Department employees, computer and data Installers;
- fire and burglar alarm installers; and,

The training should be in the form of asbestos awareness training and should include:

- the properties of asbestos and its effects on health, including the increased risk of lung cancer for asbestos workers who smoke;
- the types, uses and likely occurrence of asbestos and ACM in buildings and plant;
- the general procedures to be followed to deal with an emergency, (e.g., an uncontrolled release of asbestos dust into the workplace); and,
- How to avoid the risks from asbestos, (e.g., for building work, no employee should carry out work which disturbs the fabric of a building unless the employer has confirmed that ACM are not present).

Refresher awareness training should be provided at least every 3 years but does not need to be a formal training course and can be provided through e-learning or provided as part of a tool box talk, or safety update covering the above subjects.

Where it is identified that there is a potential that some employees' work will knowingly disturb ACM, and which is defined as non-licensable work or NLAW, cases additional training will be required to the above asbestos awareness training and should include information on:

- the operations which could result in asbestos exposure and the importance of preventative controls to minimise exposure;
- how to make suitable and sufficient assessments of the risk of exposure;
- the control limit, and purpose of air monitoring;
- Safe work practices, control measures, and Personal Protective Equipment (PPE). This should include how the correct use and maintenance of such control measures, equipment, and work practices can reduce the risk of exposure or limit the spread of asbestos outside the work area;
- procedures for reporting, recording and correcting defects;
- making the appropriate choice of Respiratory Protection Equipment (RPE), its purpose and the limitation of the range of RPE available;
- the correct use, and where relevant, cleaning, maintenance and safe storage of RPE and PPE, in accordance with the manufacturer's instructions and information;
- the importance of face fit testing of RPE and the principals of maintaining a good seal between the face and the RPE;
- requirement for medical examination;
- waste handling procedures;
- introduction to the contents of the relevant regulations, approved codes of practice and guidance for work with and disposal of asbestos;

- personal sampling, leak and clearance sampling techniques for analysis; and,
- Other work hazards, including work at height, electrical. slips, trips and falls, where this is applicable to the work being undertaken;

A record of the information, instruction and training received by each individual for NLAW should be kept.

Refresher training for NLAW should be provided at least every year but should not be a repeat of the initial formal training course and should be tailored to the individual and the non-licensable work being undertaken. Depending on the trainees needs, experience and frequency they conduct the work the training may involve classroom or practical training but for others it could be provided through e-learning or as part of a tool box talk, or safety update covering the above subjects.

12.7 RECORD

All records held in the Asbestos Register must be accessible at all times. This includes risk assessments, safe systems of work and plans of work.

All employees undertaking non licensed work for the first time will need to have a medical examination before they commence such work. Medical exams will need to be repeated at least every 3 years if the employee is to continue to carry out NNLW work.

The health records for each employee's exposed to asbestos must be kept for 40 years from the date of the last entry made in it or until the employee reaches the age of 80 years, whichever is longer. This must include the nature and duration of work with asbestos and estimated exposure for each individual worker; and dates of the worker's medical examinations. It should be offered to HSE or the individual concerned should the business cease trading.

Clinical records made as part of the medical examinations should be made available to HSE upon request and must not be destroyed without prior consultation with HSE. They should at least be kept for the same time period as NNLW Health Records.

12.8 REVIEW

The Asbestos Management Plans should be reviewed by the Approved Asbestos Co-ordinator at least annually or if there has been a change to the business e.g., a new building has been acquired.

