



Oil Pollution Preparedness, Response & Co-operation Plan

Revision No. 6 December 2022

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Note: This is a controlled plan. Any amendments are the responsibility of London Gateway Harbour Master.

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Maritime & APPROVAL OF OIL SPILL CONTINGENCY PLAN

Issued in accordance with the requirements of the Merchant Shipping (Oil Pollution Preparedness Response and Co-Operation Convention) Regulations 1998 under the authority of the Government of the United Kingdom of Great Britain and Northern Ireland by the Maritime and Coastguard Agency, an Executive Agency of the Department for Transport

PARTICULARS OF COMPANY

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Category of Port	A&B		
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APPROVAL

I declare that the Oil Spill Contingency Plan submitted by the above is relevant and complete in every respect in accordance with the requirements of the Merchant Shipping (Oil Pollution Preparedness Response and Co-Operation Convention) Regulations 1998 and the Guidelines issued by the Maritime and Coastquard Agency and is hereby approved by the Secretary of State for the Department of Transport

Coastg	juard Agency and is hereby approved by the	Secretary	of State for the Department of Transport	
	Date of Plan 01 December 20	22	Plan Version Revision 6	
This Pl	an is valid until 20 December 2027			
Place	MCA Headquarters	Signed	Equal denominally in societies or eth Fd. &Circ. 26 No. 2	
			Signature of authorised official issuing the certificate	
Date	21 December 2022	Name	Andrew Healy	
			For and on behalf of the Secretary of State	

The preparation and execution of London Gateway Port Oil Pollution Preparedness, Response and Cooperation Plan is a statutory requirement under the Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) Regulations 1990 (SI1998 No 1056) and follows the recommended format provided by the MCA document "Contingency Planning for marine Pollution Preparedness and Response Guidelines for Ports 2020.

This plan contains guidance, information, advice, and contact details to facilitate an efficient, effective, and appropriate response.

DP World London Gateway, 1 London Gateway, Stanford-le-Hope, Essex SS19 9DY

Version No. 6 December 2022

Paul Brooks, Harbour Master

The responsibility for the upkeep, amendment and review of this plan has been assigned to the Harbour Master, whose responsibility it is to ensure the plan is reviewed in accordance with legislative requirements and any changes in operational activities.

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Shift Manager Office	LG	5		✓
Health & Safety Manager	LG	6	✓	✓
Svitzer Towage	Thames	7	✓	
Boluda Towage	Thames	8	✓	
UK DPW Head of Legal	LG	9	✓	
Head of Technical Engineering	LG	10	✓	
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Port of London Authority	Gravesend	14	✓	
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Approvals:

This document requires the following approvals.

Name	Signature	Title	Date	Version
P Brooks		Harbour Master		6
T Coulter		Environment Manager		6

Glossary

ADCP Acoustic Doppler Current Profiler

CPSO Counter Pollution and Salvage Officer

EA Environment Agency

EG Environment Group

ELO Environment Liaison Officer

LOA Length Overall

MCA Maritime & Coastguard Agency

MMO Marine Management Organisation

MRSC Maritime Rescue Sub-Centre

NCP National Contingency Plan

OSMT Oil Spill Management Team

OPRC Oil Pollution Preparedness, Response and Cooperation (1990)

OMT Operations Management Team

PLA Port of London Authority

POLREP Pollution Report

RSPB Royal Society for the Protection of Birds

SAC Scientific Area of Conservation

SINCs Sites of Importance for Nature Conservation

SOLAS Safety of Life at Sea

SOPEP The Shipboard Oil Pollution Emergency Plan

SOSREP Secretary of States Representative

SSSI Site of Special Scientific Interest

TCG/RCG Tactical Co-ordinating Group/Response Co-ordinating Group

TOSCA Thames Oil Spill Clearance Association

TEU Twenty-foot Equivalent Units

TOSCA Thames Oil Spill Clearance Association

VTS Vessel Traffic Services

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SECTION 1: STRATEGY

1.1 Statutory Requirements

This OPRC Plan has been compiled by London Gateway Port Limited as a Statutory Harbour Authority. The Plan has been developed to conform with **the Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) Regulations 1998** and form the enactment of the International Convention on Oil Pollution preparedness, Response and Co-operation 1990 (OPRC) legislation for UK waters. The OPRC Plan is designed to meet the statutory responsibilities placed on the Harbour Authority for responding to oil pollution within the harbour's jurisdiction.

These Regulations require that any Port or Harbour with an annual turnover of more than £1 million, or which accepts vessels greater than 400gt, prepares an OPRC compliant Plan and implements the Plan in the event of an oil spillage.

The Regulations also dictate that any oil spillage which occurs within the Port or Harbour Authorities area of responsibility must be reported to the Maritime and Coastguard Agency.

The Maritime and Coastguard Agency is responsible for the approval of the Plan, on behalf of the Secretary of State, following a mandatory consultation process

The OPRC Plan must be formally re-approved by the Maritime and Coastguard Agency every 5 years (or earlier if substantial change is made)

1.2 Responsibility for the Plan

The nominated person for the preparation and review of the London Gateway Port OPRC Plan is the London Gateway Harbour Master, who will ensure that the information in the Plan remains current and is reviewed in accordance with legislative requirements and operational activities.

Harbour Master, DP World London Gateway, 1 London Gateway, Stanford-le-Hope, Essex, SS17 9DY

Tel: 01375 648385

1.3 Geographical Boundaries

Situated on the north bank of the River Thames in Essex. London Gateway Port's jurisdiction as a Harbour Authority extends to 60 m into the River Thames. In addition to container berths 1 to 4, London Gateway Statutory Harbour Authority includes Shell Haven oil jetty to the east of the port. The Shell Haven Jetty is leased by London Gateway to Shell UK, who are responsible as the berth operator.



London Gateway Statutory Harbour Area and Areas of Jurisdiction

London Gateway Port also owns and has responsibility for newly created mudflats; Stanford Wharf Nature Reserve (located to the west of London Gateway Port, Essex) and Salt Fleet Flats (located on the south side of the River Thames opposite London Gateway Port, in Kent).

Due to the limited extent of London Gateway Port's jurisdiction and tidal velocities within the Thames, depending on tidal conditions at the time, the spill has the potential to move rapidly outside of the Port limits. The Port of London Authority, Environment Agency and MCA shall be notified of any spillages to the water.

1.4 Authorities Represented Within the Plan

In preparing this OPRC plan the following authorities and agencies have been consulted:

- Marine Management Organisation
- Natural England
- Environment Agency
- Essex County Council
- Thurrock Council
- Port of London Authority
- Kent County Council
- Castle Point District Council
- Shell UK Limited

A copy of the OPRC Plan is submitted to Essex Police, and London Coastguard.

1.5 Interfacing Contingency Plans

Whilst this OPRC plan is specific to London Gateway Port, there are other emergency plans from third parties that should be accounted for in case of a major oil spill. In particular:

- Port of London Authority Oil Spill Contingency Plan
- Shell UK Limited Oil Spill Contingency Plan
- Shell Top Tier COMAH Plan
- Essex County Council
- Thurrock Borough Council
- Kent & Medway Shoreline Pollution Emergency Plan
- Gravesham Borough Council Oil & Shoreline Pollution Plan
- Port of Tilbury Oil Spill Contingency Plan

A Tier 3 oil spill incident may result in the MCA deciding to implement the National Contingency Plan (**NCP**). In the event of this occurring, the MCA will take control from a Marine Response Centre (**MRC**). If the MCA formally take over the response and clean-up operation, then London Gateway Port's Oil Spill Response resources and facilities will be made available to the MCA.

1.6 Purpose and Scope of Plan

The majority of, marine oil spill incidents occur within ports and harbours. Concentrated operational and industrial activity takes place in these busy environments and harbour authorities have overall responsibility for the safety of marine operations on waters within their jurisdiction. Incident preparedness is paramount to environmental, commercial, and economic interests.

The purpose of the plan is to provide a structured and clear framework for responding to an oil pollution incident which may occur within London Gateway Port's jurisdiction, including response actions and resources for Tier 1 and Tier 2 oil pollution incidents and to aid the response of a Tier 3 incident.

The jurisdiction of London Gateway Port extends to 60 m from the sea wall. Beyond this is under the jurisdiction of the Port of London Authority (**PLA**).

In the event of an oil spill incident to water, London Gateway will draw upon the Thames Oil Spill Clearance Association (**TOSCA**) for Tier 1 and Tier 2 incidents, and Adler and Allan as the Tier 2 response contractor, to assist in the response. However, once any oil washes ashore the clean-up operation becomes the responsibility of the local council. London Gateway Port will aim to assist the local council in fulfilling their responsibilities.

In the event that an oil spill, is associated with an incident, which involves risks to the health and safety of personnel, these shall take precedent in the management of the incident and the London Gateway Emergency Response Plan shall be referred to.

This OPRC plan is specifically designed for the prevention and recovery of oil-based pollutants. Spills of noxious or hazardous chemicals at London Gateway Port, including spills of such substances to water, are covered separately and a Tier 2 Contractor, Adler and Allen, is contracted to provide support and response for these types of spills within the jurisdiction of the Port.

London Gateway Port has the responsibility to respond to an oil spill within the Port regardless of its classification (refer to Table 2). All incidents must be reported to the relevant UK regulatory and maritime authorities.

The competent national authority designed to oversee all matters pertaining to the Oil Pollution Preparedness, Response and Co-operation (**OPRC**) Shipping Convention under the Merchant Shipping Act 1995 and the Merchant Shipping and Maritime Security Act 1997, is the MCA. The Harbour Master is responsible for the maintenance and upkeep of this plan and is to ensure that prior to re-approval that the plan is fully reviewed, and stakeholders consulted.

Shell UK as berth operators for Shell Haven Jetty are responsible for producing an Oil Spill Contingency Plan. This Oil Spill Contingency Plan produced by Shell UK, sits under the umbrella of both London Gateway OPRC and Port of London OPRC plans. For the purposes of oil spill contingency, as independent members of TOSCA, responsibility for Shell Haven Tier 1 response is provided by Port of London Authority instead of London Gateway Harbour Authority. This delineation of responsibilities is described by the London Gateway / Port of London Memorandum of Understanding.

Table 1 identifies responsibilities for clean-up of pollution within London Gateway's jurisdiction.

Table 1: Responsibilities for Clean-up of Pollution

Location of pollution	Responsibility for clean-up lies with:
On the water	Harbour Authority
Jetties/wharves/structures owned by Harbour Authorities	Harbour Authority
Beach/shoreline owned by the harbour authority	Harbour Authority
Foreshore owned by a private individual or group	Foreshore owner(s)
Shoreline (including land exposed by falling tide) and other structures	Local authority

1.7 Environmental Setting

The River Thames is a major national and local resource for the economy and for recreation. The Thames water quality has improved dramatically in the last 50 years and is an ecologically diverse estuary. It provides an important wildlife corridor for migrating species, nursery areas for juvenile fish including commercially important fish stocks, foraging grounds for birds and marine mammals. London Gateway's land ownership extends to cover areas of important scientific interest, including Sites of Special Scientific Interest (**SSSIs**), Special Protection Areas (**SPAs**), Ramsar Sites (Internationally Important Wetlands) and areas of internationally important mudflats for wintering birds, are located in the vicinity of the Port. It is necessary to be aware and prepared of these important environmental areas and how they can be affected by an oil spill incident

The seabed nature of the holding ground within the harbour limits has a varied substrate, predominantly the river is constrained by vertical and hard flood defence walls, docks and artificial structures interspersed with creeks, inlets, with more natural marginal saltmarsh and grazing marsh starting to occur towards the outer estuary. Conditions here are harsh with a high tidal range, strong currents, and changeable salinity.

The Thames Lower ranges from Stanford-le-Hope to Haven and Warden Point in the Outer Estuary and comprises the marine zone. The channel here is wider than further upstream and the habitats illustrate more connections between the aquatic and terrestrial environment. Saltmarsh, reed beds, mudflats, grazing marsh, shell and shingle banks, earth flood embankments and saline lagoons support a wide variety of fish and invertebrates providing rich feeding grounds for birds and marine mammals. The zone is the primary area for breeding and nursery grounds for Dover sole, flounder, bass and mullet and commercially important shellfish such as cockles and mussels.

The local tide is semi-diurnal and has a 5.8m (tidal range).

Further information regarding the environmental setting of London Gateway Port is provided in Section 3.4.

1.8 Risk Assessment (see Appendix 5 for Risk Assessment Matrix)

DP World London Gateway Port can accommodate the world's largest container ships and a planned capacity of handling 3.5m TEU per annum. It provides shipping companies easy access to all national transport hubs, via rail and road access.

The Port currently comprises three operational berths with twelve quay cranes and associated container stacks and landside interchange area. A fourth operational berth is under development. Land reclamation has been completed to facilitate future development of up to six berths. At the western end of the Port there are leased areas providing ancillary services to the Port. The Port also comprises a rail head served by rail mounted gantry cranes, a locomotive refuelling area (serviced by fuel tankers) and supporting facilities including Border Control, engineering workshop, amenities building and offices. Fuel tanks and associated refuelling facilities are located at the eastern side of the Port. Refer to Appendix 9 for Port drainage plans and interceptor locations.

To the east of the container berths is Shell Haven jetty, leased to, and operated by Shell UK. The Shell Terminal imports primarily refined products, with a call frequency of one or two vessels per month.

Possible operations within the Port that could result in a pollution incident have been identified below.

Navigation

London Gateway accepts ultra large container vessels measuring approximately 400m length overall (LOA), and with a draft of circa 16m.

Shell Haven berths products tankers of up to 280m LOA

Potential exists for oil spill releases during vessel movements at both container berths & Shell Haven Jetty, as follows:

- Vessels colliding resulting in a rupture of fuel tanks.
- Heavy impact to quay when berthing
- Impact with Port infrastructure

Risks associated with the above are minimised through the pilotage of vessels by PLA Pilots utilising navigational aids, SeaIQ portable pilotage units, and vessel traffic management controlled by London VTS. In addition, there is an extensive fendering system along the quayside to minimise damage in the event of contact.

Grounding

In order to maintain suitable depths alongside the berths and the approach channel, regular hydrographic surveys are undertaken by the Port of London Authority. Maintenance dredging is undertaken by both London Gateway Port and Shell Haven, as required to maintain navigation depths.

The risk of grounding resulting in damage to the hulls of vessels is therefore considered low. Each vessel is allocated a Passage Plan agreed by the Master and PLA pilot prior to passage and monitored by London VTS.

Cargo Spillage

London Gateway Port handles fully containerised cargo and a small quantity of heavy lift cargo as breakbulk. The risk of spillage from containers remains low. A small number of containers are fitted with flexitanks to enable carriage of liquid in bulk and a small risk of spillage exists in event of a cargo handling incident. Most liquids carried in flexitanks are non-oil based although a few contain processed vegetable type oils. Other liquids are carried in ISO tank containers which are generally constructed of adequate strength to withstand an impact situation.

Dangerous Goods are packed and carried in compliance with the IMDG Code.

Shell Haven unloads tankers containing Jet-A1 for the aviation industry. See Material Safety Data Sheets in Shell Haven Terminal Oil Spill Contingency Plan. In addition to navigation risks, highlighted as per container vessels, the greatest risk of an oil spill incident at Shell haven is during normal discharge operations, with spillage from unloading arms and associated pipelines. The unloading arms are fitted with quick shut off valves in the arm, to prevent spillage in event of unplanned disconnection. The Shell Jetty is always manned when a tanker is alongside, connected and working, with the connection manifolds under constant surveillance. Before oil transfer operations commence the jetty operator in conjunction with ships command will complete a ship / shore safety checklist.

Potentially pipeline failure could result in a significant loss of oil, so a careful watch by trained personnel during vessel operations are being undertaken is maintained, this coupled with continual pipeline maintenance and inspection.

Bunkering

Bunkering operations are infrequent at London Gateway Port, however if undertaken, with prior agreement of the Harbour Master, this will be in strict accordance with London Gateway Port's Bunkering Procedure (refer to Appendix 3). Bunkering is only permitted via bunker barge – road tankers not permitted. All bunker barges used must be licenced by the PLA and demonstrate full SOPEP compliance. Risks associated with bunkering include tank overflow and hose failure, however implementation of appropriate procedures during bunkering will minimise risk. Due to the infrequent nature of bunkering operations at London Gateway Port the risk is deemed to be low.

Discharges from Outfalls and Vessels

London Gateway Port has a series of surface water outfalls which discharge to the River Thames, with two main outfalls located at the eastern and western end of the Port which are served by pump stations and a series of smaller outfalls which discharge surface water directly from the quayside. Refer to Figure 3 appended to this Plan for locations of outfalls in addition to Figure 4 which focuses on the quayside drainage. There is also an additional outfall on the western side of the London Gateway development which discharges surface water from the London Gateway Logistics Park. This outfall is also served by a pump station.

In the event of oil spills on land, procedures are implemented to close penstock valves where applicable and/or shut down pump stations to prevent discharge to the River Thames. Reference to the London Gateway drainage plans identifies the catchment areas for drainage, the location of interceptors and penstock valves and outfalls, to inform response actions. In the event of a major oil spill on land, pump stations shall be shut down as a precautionary measure until the extent of the spill has been assessed. Landside spills may result from the following:

- Rupturing of landside storage tanks e.g., through vehicle contact.
- Spills from malfunction of Port equipment or vehicles (e.g., quay cranes).
- Leaking containers or tank containers
- Incidents during refuelling, e.g., hose failure or overfilling.
- Collision between vehicles.

Procedures are in place to mitigate risks associated with the above and with implementation of these procedures the risks are low.

In addition to the above, the potential exists for oily bilge water to be inadvertently pumped into the River Thames from a vessel and measures to prevent this from occurring should be implemented by the vessel.

Place of Refuge

The UK has obligations under the International Convention for the Safety of Life at Sea, 1974 (**SOLAS**) to provide shelter for maritime casualties which may require use of waters within a port as a place of refuge. MCA and SOSREP are responsible for discharging this SOLAS obligation and London Gateway Port's responsibility as a harbour authority to work with the MCA and SOSREP. A well-developed understanding about the nature and environment of the Port's waters are important to plan and assist with a potential casualty that seeks shelter within London Gateway Port's harbour jurisdiction.

Inherited Incident

The proximity of London Gateway Port to the busy shipping lanes in the River Thames presents the risk of an inherited oil pollution incident. Oil pollution incidents that take place outside London Gateway Port's controlled waters can be inherited (e.g., spills influenced by wind and tide are sent in the direction of the port). With regard to an inherited incident there would be a direct response from the Port with its own resources, however London Gateway Port would be under the strict guidance of the MCA and SOSREP.

Fate of Spilled Oil

One of the most important processes that takes place when oil is spilled, is that of evaporation and emulsification, where oil goes through changes in its composition.

Upon impact with water, oil will normally spread and drift very rapidly to form a thin slick over the surface. This is transported very quickly on the surface by winds and currents.

Oil emulsion takes place when the lighter compounds have evaporated, and the physical processes mix water in with the oil. This causes the volume of the oil to increase and makes it viscous and much harder to disperse.

Micro-organisms in sea water, by using the natural process of biodegradation, can use the dispersed oil as an energy source, breaking it down to carbon dioxide and water. In some incidents this might be better than manually cleaning up the oil, though this is dependent on the surrounding environments.

Oil landing on shorelines after a spill, is normally very patchy. Some resources might be impacted greater than others. Potential areas and extents of distribution of oil should be assessed quickly using. Furthermore, the environmental setting of the site, including the location of sensitive sites and receptors, influences of tide and current should be assessed when determining response actions and priorities and deploying booms during clean up. Section 1.7 above provides a summary of the environmental setting.

1.9 Categories of Incidents

For the purpose of planning, tiers are used to categorise oil spill incidents. The tiered approach to oil spill contingency planning identifies resources for responding to spills of increasing magnitude but extending the geographical area over which the response is co-ordinated.

- Amount and type spilled
- Prevailing weather / tidal conditions
- Proximity of available resources
- Nature / geography of the location

Table 2: Tiered Levels of Oil Spill Response

Category	Description	Escalation
Tier 1	A small operational spill that may occur as a result of daily activities. This is level at which response operation could be carried out successfully using the Ports resources without the assistance of others	If necessary, Harbour Master to activate Tier 2 contractor. MCA kept up to date at all stages of response
Tier 2	A medium sized spill within Port Limits where immediate resources are insufficient to cope with the incident and further resources called in on a mutual aid basis.	If necessary, Harbour Master / Tier 2 contractor to escalate to MCA.
Tier 3	A large spill where substantial further resources are required and support from national or international stockpiles may be necessary. A Tier 3 incident is beyond the capabilities of both local and regional resources	MCA Counter Pollution Response SOSREP (Counter Pollution and Salvage)

1.10 Incident Organisation

The Harbour Master takes overall responsibility at London Gateway Port for the implementation of this OPRC plan, however in the absence of the Harbour Master, the Duty Shift Manager may assume this responsibility. The Harbour Master will delegate response actions outlined in this plan to other London Gateway Port personnel, as appropriate, including the DP World London Gateway Environment Team.

A Tier 1 incident will involve only the Harbour Authority and the relevant personnel appointed by the Harbour Authority to assist with the response.

A Tier 2/3 incident will establish an Oil Spill Management Team (OSMT) that will consist of London Gateway personnel and external organisations who will be contacted by the Harbour Master. Not all of the external personnel, may be needed at the same time or on site. Where appropriate real time communication systems can be utilised for external bodies (i.e. TEAMS). The OSMT will be established at the Terminal Building, in 1st floor meeting room T1M1 where communications facilities are available. The OSMT will provide the command and control structure to co-ordinate and direct incident response.

The Duty Shift Manager will fulfil the role of the Harbour Master, in reference to the actions set out in this plan, in event that the Harbour Master is unavailable at the time of the incident, or until their arrival in site.

In the event of an oil spill affecting Shell Haven, the Shell Terminal Manager or Deputy to activate Shell Haven terminal OSCP. On notification from Shell Haven Terminal London Gateway to activate own plan and as a neighbouring jurisdiction, Port of London Authority will activate their own Plan.

Shell Haven Oil Spill Management Team is established at the Shell Incident Control Room. A representative of London Gateway will join the Shell Haven Oil Spill Management Team (Full details of Shell Haven Oil Spill Management is detailed in Shell Haven Terminal Oil Spill Contingency Plan)

1.10.1 Incident Management Team

Table 3:

London Gateway Oil Spill Management Team	External Organisations. For Tier 2 or 3 attendance may be in person or virtual via TEAMS
Harbour Master	Port of London Authority
Port Operations Director	MCA Counter Pollution
Operations Manager Operations Shift Manager	SOSREP (Salvage Incidents Only – SOSREP may set up /chair Salvage Control Unit (SCU)
Health & Safety Manager	Tier 2 Contractor Adler & Allan
Environmental Manager	Shell UK
Communications Manager	Environment Agency
Insurance Manager	MMO
Admin Assistant for record keeping	Natural England
	Essex Fire & Rescue Service
	Essex Police
	Essex County Council
	Thurrock Council
	Kent County Council
	Vessel agent / owners
	Marine Surveyors.

Note: OSMT will depend on the severity of the incident.

For Tier 3 incident the MCA will take the lead and activate a Marine Response Centre. The incident management will then be in accordance with the National Contingency Plan.

Role of SOSREP

The role of the Secretary of States Representative (SOSREP) was formally introduced in 1999 and has the power to oversee, control and intervene in any salvage operations in UK waters involving vessels or fixed platforms where there is a significant risk of pollution. Ultimately, it is the responsibility of SOSREP to take control of a vessel in distress and bring it into the London Gateway if selected as an appropriate port of refuge.

SOSREP, once advised of an incident, cannot ignore a situation. Government policy is that ultimate control of any salvage operation where there is actual pollution or a significant risk of pollution to the environment must be exercised by SOSREP. In this situation, an Environment Group (**EG**) will normally

be established as described in the National Contingency Plan. Appointed Environment Liaison Officers (**ELOs**) will provide environmental and public health advice to the response centres and the relevant harbour authority.

1.10.2 Response Strategy

Tier 1 Response

London Gateway Port commits to maintain a minimum of four Level 4P trained Shift Managers and four Level 4P Assistant Shift Managers to, ensure 24/7 on-site cover. In addition will commit to maintain at least a further four Level 4P Managers (Operations / Environmental / Harbour Master)

In addition, London Gateway commits to maintain at least twelve Team Leaders trained to Level 2P level, in order to provide three per shift, who will operate or direct the use of the oil spill equipment, including deployment of inflatable booms.

For purpose of boom deployment under Tier 1 response, the waterborne assistance will primarily be provided by TOSCA, who can be mobilised via London VTS. TOSCA reaction time to be tested by exercise. An informal agreement with Boluda Towage exists, and they will provide a tug for assistance with boom deployment, if available in vicinity or at Coryton mooring buoys.

The Duty Shift Manager or Harbour Master will initiate response actions and activate the use of the appropriate action sheet. If appropriate they should activate oil spill response actions on land, which will include closing of penstocks or shutting down of pump stations as to prevent release to water via the on-site drainage.

In the event the incident escalates the Harbour Master will initiate a Tier 2 incident

Tier 2 Response

The Harbour Master will establish and chair an Oil Spill Management Team in the Incident Control Room at T1M1 Terminal Building. The team may differ according to the scale of the incident, but key roles will be maintained. The MCA, as the Regulator and National Competent Authority will provide incident oversight, SME, and potentially additional equipment.

The Harbour Master, or his absence the Operations Shift Manager will contact London Gateway's Tier 2 responder advising of the incident and requesting Tier 2 response mobilisation. The Tier 2 responder contracted for this service is Adler & Allan. Following a call to their operations centre 0800 592827, they are contracted to respond and attend with 4 hours

The Thames Oil Spill Clearance (TOSCA) provides 24hour response to oil spills between Tower Bridge and Canvey Island. They are based at Gravesend and may be mobilised via London VTS.

London Gateway Port maintains a stock of spill response equipment located in the Oil Spill Response Equipment container, sited at the east end of Berth 1. Included in the spill response equipment are 10m and 20m lengths of Sentinel inflatable booms. TOSCA are the primary provider of boom

deployment with their own on-board equipment but may be supplemented with London Gateway booms. Deployment of London Gateway booms to TOSCA craft would normally be means of lifting by quay crane, either pre-inflated or requiring inflation on deck of TOSCA craft. Alternatively inflated booms can be passed overside direct from the quay but should be limited to high water +/- 2 hours. If TOSCA not utilised, a local workboat provider eg Mikes Boatyard", should be .In the event of a Tier 2 incident further external assistance and response equipment from TOSCA and Adler and Allen will be required.

Response co-ordination and technical advice groups may be set-up in the event of a Tier 2 incident depending on the affected areas.

Tier 3 Response

If an incident occurs or escalates beyond the capability of a Tier 1 and 2 response, the MCA may determine that a Tier 3 response is required, and the National Contingency Plan will be implemented. At this point formal control of the incident will be handed over to the MCA.

In the event of a Tier 3 incident declared, a Marine Response Centre will be established at No.1 London Gateway (western end of the Port, located off the main access road). In addition, the Incident Control Room at Terminal Building is available.

When there is likely to be significant onshore consequential impacts on health, the economy, or environment or where significant public and media interest is generated, a Strategic Co-ordinating Group (SCG) may be established. In this instance, a Government Liaison Officer will normally be despatched immediately. The role of the Government Liaison Officer is to assist the exchange of information between responders and with central government. Appropriate members of the OSMT will re-deploy to the co-ordination groups, as requested by the MCA and local authorities.

In addition, incidents are most likely to require in a Tactical Co-ordination Group (TCG) / Recovery Co-ordination Group (RCG) if a significant amount of oil impacts a considerable length of coastline. An Environment Group (EG) will also be set-up to provide technical advice on response actions and may be located remote to the spill site. Further information regarding the role of the EG is presented in MCA STOp Notice 2/16 – Environment Group.

An EG and TCG/RCG may be established during a Tier 2 incident, depending on the areas affected or potentially affected, by the incident. For example, this may be required for incidents which affect adjacent the mudflat areas which are highly sensitive habitats.

The role of the TCG/RCG is to co-ordinate and lead the onshore response. In order to achieve that, it must:

- Determine the extent of pollution along the affected coastline
- Devise and agree an overall strategy for the clean-up response, assign priorities based on threat, impact, and available resources.
- Propose, agree, and initiate the shoreline clean-up response

- Obtain and allocate resources required on an agreed priority basis
- Agree working liaison with the Environmental Agency.
- Ensure a reconnaissance procedure is implemented after clean-up has been completed to monitor sensitive areas or species that were affected.

1.10.3 Shell Haven Incident Response

Shell Haven Oil Terminal are tenants located within London Gateway Statutory Harbour Authority and the Shell Haven OSCP is a subsidiary plan to this London Gateway Plan. However, as a Thames based oil terminal, for Oil Spill Response Contingency purposes, they are also included under the umbrella of the Port of London Authority Oil Spill Contingency Plan. As required by both plans, Shell Haven Oil Terminal Plan details incident levels of response. In addition, they contribute financially directly to TOSCA for Tier 1 and Tier 2 Response strategies.

Shell Haven Tier 1 Incident:

Shell Haven Terminal activates their own response centre and initiates appropriate response actions. The Shell Terminal Manager will activate their Oil Spill Management Team (OSMT) at the Shell Haven Incident Control Room under their chairmanship. The OSMT provides the Shell command and control structure to co-ordinate and direct their response. London Gateway will maintain oversight of any Tier1 or Tier 2 incident at Shell Haven Terminal and as such will join their OSMT.

London VTS shall be notified by both Shell Haven Terminal and London Gateway, as the Statutory Harbour Authority with overall lead. In the event of a waterborne incident, TOSCA will be mobilised by Port of London Authority

Shell Haven Tier 2 Incident:

In the event that, the situation escalates, the Shell Haven Terminal Manager and London Gateway lead, may declare a Tier 2 Incident. They will mobilise the Tier 2 Responder Adler & Allan to attend and assist. Mobilisation time may be up to 4 hours or 6 hours when out of office hours.

The Port of London may advise a senior representative to attend Shell Haven Terminal Incident Control Room in event of escalation to Tier 2 Incident. They will advise Shell Terminal Manager whether response should be transferred to Port of London Marine Response Centre. In the event that incident management is transferred to PLA Marine Response Centre, a representative from both Shell Haven Terminal and London Gateway will also join that Marine Response Centre. This is considered appropriate if a spill extends beyond the immediate vicinity of the jetty, or that response actions are considered inappropriate.

Shell Haven Tier 3 Incident:

If an incident occurs or escalates beyond the capability of a Tier 1 and 2 response, the MCA may determine that a Tier 3 response is required, and the National Contingency Plan will be implemented. At this point formal control of the incident will be handed over to the MCA. (See 1.10.2)

1.11 Strategic Approach

The following sub-sections provide high-level overview guidance on potential response considerations and strategies for clean-up. Appropriate response strategies will be developed in co-ordination with the relevant authorities and resources and expertise provided by Tier 2 response contractors. A number of factors will determine the response strategy and response / protection priorities which need to be identified based on assessment of the spill, tidal conditions, and sensitive areas likely to be affected.

1.11.1 Port Drainage

There are a number of outfalls along the quayside which drain surface water directly into the Thames. If an incident occurs on the quay, it should be checked that the shut off valves that control these outfalls are closed, and can be checked with the Building Management System (BMS). This is accessed via the Shift Manager's computer (the Environment Team, Harbour Master and Facilities Management also have access to this system) or, in the event of a BMS failure, the shut off vales should be closed manually using the motorised spindle which is kept in the Port Stores.

Closure of these shut off valves will prevent contaminants that have entered the surface drains, entering the Thames. Depending on the location and extent of the spill, consideration should also be given to the need to shutdown of the pump stations. Refer to Appendix 9 showing the location of outfalls and pump stations and drainage catchment areas.

1.11.2 Recovery of Oil on Water

Oil on water undergoes certain phases of evaporation and then proceeds to emulsify. The forces that act upon the water such as wind, wave and tide also act on the oil, so it is essential that the oil spill is contained quickly and prevented from reaching sensitive areas.

Shoreline barriers may be used for dealing with spills, firstly for coastal protection and by diverting/preventing the oil from reaching the shore. Secondly, in the collection of oil being washed downstream as part of the clean-up operation, this is to prevent the oil spreading further. The following influences are important when deploying booms.

Wind

Strong winds generate waves, which can splash over the boom. Although oil on the surface tends to dampen waves, eventually oil will splash over the boom. Strong winds can also generate additional tensile forces on the boom, causing it to drift. The oil that can potentially spill over the booms must be monitored and the rate of wind speed in knots should be calculated at the beginning of the clean-up operation and monitored throughout.

Currents and Tides

If the oil spill cannot be contained before the tide changes, due to the tidal nature of the Thames Estuary, contamination is likely to be spread upstream on the flood tide and downstream on the ebb

tide. Continuing recontamination following each tidal cycle is possible following the clean-up operations, thereby extending the clean-up period of a large incident over several weeks.

Currents and tides will initially concentrate the oil in a wedge in the boom cusp. At current speeds of less than half a knot at right angles to the boom, this wedge can be several metres wide, and will contain the majority of oil that accumulates. If current speed increases, then the leading wedge of the oil will push up against the boom and water would flow under the boom's skirt taking oil with it. The issue caused by currents can be rectified by securing the boom at such an angle that oil can be diverted by the boom to calmer water. The table below can help to construct an efficient booming plan.

Table 4: Maximum angle of boom relationship with current strength

Curren	t Strength	Maximum Angle
Knots	m/sec	Degrees
0.7	0.35	90
1.0	0.5	45
1.5	0.75	28
2.0	1.0	20
2.5	1.25	16
3.0	1.5	13

Mooring Length and Anchoring

The length of mooring between boom and anchor should be 5 times the maximum water depth (note the tidal range of the area). If moorings are too short the boom may be dragged below the surface or the anchor tripped

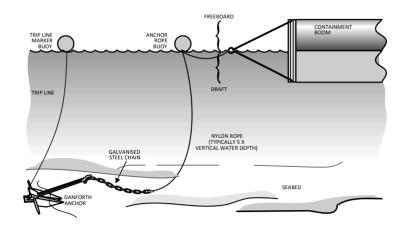


Figure 1: Diagram showing sufficient mooring length

The holding power of an anchor will vary according to its type, weight, and the composition of the riverbed. For example, anchors of the Bruce or Danforth type will be most effective in sand and mud substrates, but a fisherman's anchor (hook type) will be better on a rocky bottom.

Quayside Booming

In the event of an oil spill to water, TOSCA will be contacted to provide support for deployment of their own booms to contain the spillage where possible. If necessary, London Gateway booms stored in the Oil Spill Response Container can be used to back up the TOSCA equipment. These booms are stored on pallets inside the container and can be loaded to the deck of TOSCA response craft for subsequent inflation. It is also possible to lower inflated booms direct to water by quay crane and subsequently connected by TOSCA response craft. Alternatively, dependent on height of tide, booms can be lowered directly overside manually to either TOSCA craft or other workboat, if utilised.

In the port there are various areas where booms can be connected to the quayside. When connecting booms to fixed structures a running mooring should be installed to allow the boom to rise and fall with the tide. This is a rope attached at the top of the quay to a bollard and weighed down by an anchor. This technique will only be effective where forces on the rope and boom are minimal.

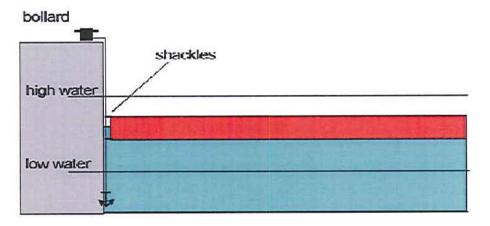


Figure 2: Diagram of inflatable boom connected to bollard alongside jetty

It is also necessary to establish the flow velocity of the waters in the area. This information is held within the following documents:

- (a) PLA Tide Tables
- (b) Admiralty Chart No.1186
- (c) NP249 Tidal Stream Atlas Thames Estuary

1.11.3 Recovery of Oil from Inshore Waters

The principal aims of shoreline clean-up operations are to reduce the pollution to a tolerable level and to restore the coastline with the least impact to the environment. A response and clean-up strategy would be determined in co-ordination with and approval by the relevant authorities including environmental regulators.

If the oil is contained within the estuary access, timely decisions on response strategy and access and mobilisation will be important due to sensitive mudflats, beaches, and creeks. Care should be taken when accessing these areas and precautionary checks should be taken.

Refer to Section 3.4 which provides further information regarding the environmental setting of London Gateway Port and reference to Figures 3 and 4 which identify environmentally sensitive areas.

Three stages can usually be recognised in the clean-up of shoreline contamination.

- **Stage 1:** Removal of heavy contamination and floating oil.
- Stage 2: Cleaning up of moderate contamination, stranded oil, and oiled beach materials.

Stage 3: Clean-up of lightly contaminated shorelines and removal of oily stains. In many situations it will not be necessary to progress through all three stages and on occasions oil on shorelines will be best left to weather and degrade.

1.11.4 Physical Removal of Oil from a Shoreline

The foreshores closest to London Gateway Port, is to the west along Mucking Flats, Mucking Creek and Stanford Wharf Nature Reserve, with Thames Haven and Holehaven Creek to the east, and Salt Fleet Flats to south of river, refer to Figure 3. These are environmentally sensitive areas which are used by wading birds amongst other wildlife. Both Stanford Wharf Nature Reserve and Salt Fleet Flats are outside of London Gateway Statutory Harbour Area but remain London Gateway Areas of Jurisdiction. (See paragraph 1.3). Shell Haven Oil Terminal jetty and foreshore however, is contained within London Gateway Statutory Harbour Area itself.

Booming exercises to date, with London Gateway OSRO have shown that deploying booms across Mucking Creek will have some positive impact to preventing oil from entering the creek on flood tide. However due to depths available TOSCA response craft assistance is limited.

As identified above, any shoreline clean-up strategy would be determined in co-ordination with and approval by the relevant authorities. Natural England and the Environment Agency shall be consulted from the outset to ensure that the protected areas have not been affected and to determine possible post monitoring of the area.

A preferred method of cleaning sensitive areas such as these may be to use low impact techniques to wipe away the excess oil and then allow natural processes to biodegrade the remaining contamination. This clean up should follow the shoreline clean-up plan within the PLA Port of London Authority Oil Spill Contingency Plan.

Clean up procedures should consider:

- · Access to the shoreline
- Poor vehicle mobility over soft substrate
- Penetration of oil into the shoreline material
- Excessive amounts of shoreline material being removed whilst clearing the oil, which will need
 to be disposed of. It should be noted that hazardous waste disposal sites in the UK are
 increasingly limited.

Note: Refer to map in Figure 4, which identifies designated sites/environmentally sensitive areas.

If the clean-up strategy involves removal of contaminated shoreline materials, excavation should use a scooping action to slightly undercut the oil, therefore cutting into clean material to avoid spreading oil over, up or into the shoreline. Oil will inevitably enter the body of the pebble foreshore and may take a few weeks to leach out as sheen and tar balls. If the sheen is predicted to be large, then an inflatable boom should be placed along the shoreline to intercept the leaching oil and prevent it from entering back into the Thames Estuary.

1.11.5 Dispersants to Action

As a strict policy, London Gateway Port will refrain from the use of artificial dispersants in response to an oil spill due to the local seabed topography and the sensitivity of the surrounding receptors. Should the use of artificial dispersants be necessary then approval should be obtained directly from the MMO/EA/PLA. Refer to contact list in Section 3.2.

Note the PLA holds a Standing Approval for Use of Dispersants to a maximum quantity of 450 litres without prior notification to MMO.

1.11.6 Health & Safety

The Harbour Master / Duty Shift Manager shall complete a risk assessment for each activity associated with the clean-up response. The Site-Specific Health and Safety Plan Assessment Form lists site characteristics, site hazards, personal protective equipment and site facility needs. Refer to Appendix 6

Access to clean up areas will be restricted. Security will be deployed to ensure only persons working on the clean-up operation are permitted access.

1.11.7 Decontamination

Workers who have been wearing protective clothing are likely to become contaminated by oil during the clean-up operation. The clothing needs to be cleaned or removed to prevent further contamination outside the area, with facilities for such cleaning being made near but clear of the work site.

A decontamination area should be situated such that the drainage from the clean-down is drained into an appropriate storage tank. Care should be taken to make sure that contaminated waste does not enter the normal drainage or waste disposal system and neither leach into the soil or watercourses in the area. Contaminated clothing will have to be disposed of as hazardous waste if they cannot be fully washed or are not capable of having all traces of contaminant removed.

1.11.8 Explosion and Fire Hazards

Any spilled petroleum-based product is volatile. This means that it can produce a gas, which then mixes with the air around the spill, and can cause an explosion. Where there is a risk of flammable atmosphere, an exclusion zone should be established until appropriate safety precautions can be implemented. London Gateway holds multi gas detectors and suitably trained personnel.

1.11.9 Welfare

Volunteers and personnel returning from prolonged periods of time outside and on the water will need a supply of hot drinks and food. Arrangements will need to be made as soon as possible with the London Gateway Facilities Management Department to ensure that appropriate welfare provisions are provided.

1.11.10 Waste Management

London Gateway Port Waste Management Plan details the standard operating procedures for waste disposal from vessels. However, in the event of an oil spill, further provisions for storing and disposing of oily wastes will be required, including disposal of absorbent materials, soiled protective overalls and gloves, and recovered oils. Details in MCA STOp Notice 3/16 Waste Management.

Depending on the location of recovery, temporary storage measures may include, construction of a temporary lined bunded area to contain liquid waste, skips and drums or heavy-duty plastic bags. Storage sites need to be on reasonably firm ground with good access for vehicles depositing and removing oil and waste.

Wherever possible, spilled oil should be recovered for recycling and re-use. However, any clean-up operation is likely to produce large amounts of oily waste materials and water, often far more than the original oil spillage. Waste segregation will occur wherever possible to enable greater recycling and re-use.

All oily waste such as absorbent materials, personal protective equipment, and oiled sand and shingle must be handled, stored, and disposed of as hazardous waste in the proper manner.

The Harbour Master/Duty Shift Manager should liaise with the London Gateway Facilities Management team to provide additional support for waste disposal and storage. The Tier 2 response contractor can also provide waste management storage and disposal services.

For small amounts of waste, the strategy is to dispose of it via the existing arrangements with contractors. Larger quantities may require consultation with the Environment Agency, Essex County Council and Thurrock Council.

The main disposal options will be:

- Recycling of oily liquid waste.
- Landfill of general non-hazardous waste.
- Stabilisation/soil treatment facility.
- Incineration

The suitability of vehicles for accessing clean-up sites will need to be considered depending on location. For example, consideration will need to be given for incidents that require clean-up at Stanford Wharf Nature Reserve located to the west of the Port due to railway bridge height restrictions.

SECTION 2: ACTION

2.1 Introduction

This section outlines the steps required to be taken during a pollution incident event. Its purpose is to:

- Guide Port personnel through the procedure of managing an oil spill within the jurisdiction of London Gateway Port
- Mitigate the impacts of an oil pollution incident within London Gateway Port
- Facilitate those involved in the response of a pollution incident to effectively communicate with the parties involved and to ensure the optimal deployment of available resources.

The plan is specifically detailed to enable London Gateway Port to respond to a Tier 1 marine based oil spill pollution incident within the jurisdiction of London Gateway Port, and to assist external parties with Tier 2 or 3 incidents within the Port's 60 metre jurisdiction. In addition, London Gateway has a duty to plan for hazardous and noxious substances utilising the Tier 2 response contractor, Adler and Allan.

2.2 Notification

All oil spill incidents, including those at Shell Haven Terminal, shall be notified without delay to the Harbour Master and Duty Shift Manager.

The extent of notification of external organisations and authorities will be determined by the initial tier classification of the incident by the Harbour Master. Responsibility for ensuring that external notifications are made is with the Harbour Master. The Environment Agency and the PLA Duty Port Controller should also be informed of 'all discharges, or potential discharges of polluting materials to the sea' in addition to notification to the MCA

- 2.2.1 An Initial Pollution Report (POLREP CG77) should be completed by the Harbour Master and submitted to the MCA without delay. This is a Statutory Requirement. Prior to submission of a POLREP, an initial verbal notification should be made to London Coastguard Maritime Rescue Sub Centre (MRSC). Once the POLREP is completed it is to be e-mailed to London Coastguard on zone12@hmcg.gov.uk. A copy of this form and associated guidance is presented in Appendix 1.
- **2.2.2** The details should be relayed in the first instance to **PLA Duty Port Controller**, which is manned 24 hours a day, 365 days of the year. Reporting can be made via the following means:

Telephone 01474 560311 or 01474 562215

Marine Based VHF Radio Channel 68 (24 Hour)

2.2.3 Notification to the **Environment Agency** is made via the Incident Reporting Hotline:

Telephone: 0800 807060

Information that will typically be required by the Environment Agency on reporting an incident, is presented in Appendix 2.

Internal Notification Guidelines can be seen in Table 5 below. See Section 3.1 for contact details.

Table 5: Internal Notification Guidelines

Tier	London Gateway Port
1/2/3	Harbour Master
2/3	CEO
1/2/3	Port Operations Director
1/2/3	Duty Shift Manager
1/2/3	PLA Duty Port Controller
1/2/3	Environmental Manager
1/2/3	Health and Safety Manager
2/3	Communications Manager

It is important that internal notifications to DP World Regional and Global teams are also made in accordance with the DP World Critical Incident Reporting (CIR) guidelines.

2.2.4 Tier 2 Response Contractor

Adler and Allan are contracted by London Gateway Port to provide additional resources and expertise for responding to Tier 2 incidents.

Adler & Allan - Tel: + 44 (0)800 592827

Adler & Allan Email: <u>dutymanagers@adlerandallan.co.uk</u> or <u>client.services@adlerandallan.co.uk</u>

This line will be manned on a 24-hour basis. The caller will be asked to provide: -

- (a) name of caller
- (b) name of company
- (c) location of caller
- (d) telephone number including prefixes

(e) brief details of the incident

The Adler and Allen Duty Manager will then be contacted who will contact the requesting party. Once contact has been made, further details will be collected to enable a response strategy to be determined. Refer to Appendix 4 for information required to be provided to Adler and Allan and notification procedure.

Contracted Adler & Allen Response Time: 4 hours from time of initial call

2.3 Course of Action

Following the initial report of an oil pollution incident to the Harbour Master, it is their responsibility to confirm the incident details and initiate an appropriately tiered response.

The Harbour Master is responsible for:

- 1. Mobilising the Port's response equipment for Tier 1 category incident
- 2. Informing the PLA Duty Port Controller (DPC) to initiate TOSCA response. DPC have a check list and will normally seek the following information
 - Is major incident declared? Emergency Services called?
 - Exact Position ie Berth, Channel etc?
 - Type of oil?
 - Type and extent of release or contamination?
 - Potential size of release?
 - Effect to persons / environment?
 - Plume size / wind & tide directions?
 - Any debris or damage?
 - Any river or land access issues?
 - · Safe Route?
 - Any casualties?
- 3. The attendance of external contractors in event of support required for a Tier 1/2/3 incident
- 4. Making arrangements for the safe storage and legal disposal of wastes arising from the incident.
- 5. Ensuring necessary reporting arrangements to the MCA.

Personnel involved in an oil spill response operation should be trained and equipped with action cards, ready to liaise with the Harbour Master/ Duty Shift Manager. The following members have personal action cards that can be found in Appendix 3 and further information is presented in Section 2.4:

- 1. Duty Shift Manager
- 2. Harbour Master
- 3. Duty Shift Security Manager.
- 4. Environment Team
- 5. Historian (someone allocated to recording/documenting the events and resources used)

The person reporting the spill should be prepared to provide the following information to the Harbour Master/Duty Shift Manager.

- 1. Vessel if known
- 2. Location (grid reference/ landmarks)
- 3. Source and nature of pollution
- 4. Extent of pollution
- 5. Any known hazards associated with pollution

It is important that in the event of any spill incident involving damage to equipment or vessels and/or requiring external resources, be reported to the London Gateway Port Insurance Manager and Customer Services.

The following sections provide high-level overview guidance on potential response considerations and strategies for clean-up. Appropriate response strategies will be developed in co-ordination with the relevant authorities and resources and expertise provided by Tier 2 response contractors. A number of factors will determine the response strategy and response and protection priorities will need to be identified based on assessment of the spill, tidal conditions, and sensitive areas likely to be affected.

External notification requirements are outlined in Table 6 below. See Section 3.2 for contact details.

Table 6: External Notification Requirements (see Contact Details including out of hours, Appendix 15)

Tier	Organisation
1/2/3	Environment Agency (24/7 hotline – see Appendix 2)
1/2	MCA 24/7 via London MRSC (Initial telephone call followed by emailed POLREP)
1/2/3	Port of London VTS 24/7 (telephone Duty Port Control
2/3	Thurrock Council
2/3	Natural England
2/3	Essex County Council
2/3	Kent and Essex Inshore Fisheries Conservation Authority (KEIFCA)
2/3	Kent County Council
2/3	Essex Fire and Rescue Service
2/3	Shell UK Shell Haven *

^{*} In event of oil spill originating at Shell Haven Terminal external notification details are contained Shell Haven OSCP page 26 to 29.

2.4 Action Cards

The action cards are split into four sections:

- (a) Alert: The different notifications required internally and externally
- (b) Initial Actions: Actions required immediately to initiate the response
- (c) Further Actions: Actions required when a response is underway
- (d) Final Actions: Actions required to be completed before the response can be officially stood down/ handed over

Action cards are included for the following positions and are presented in Appendix 3:

- (a) Duty Shift Manager
- (b) Harbour Master
- (c) Duty Shift Security Manager
- (d) Environment Team
- (e) Historian

The following logs and checklists/forms are provided in Appendix 7. It will also be important to keep a log of deployed resources, materials and equipment used.

- (a) Personal Log template
- (b) Oil Spill Assessment Checklist
- (c) Incident Log

2.5 Response Guidelines

This section provides identification of immediate response priorities; mobilising or placing resources on standby and establishing which resources will be utilised within prioritised response sites, e.g., in the form of booming plans and/or tactical response plans.

Useful guidance can be found in MCA STOp notices. Select notices are appended to this report, however extant notices can be located at the following website link:

https://www.gov.uk/government/publications/scientific-technical-and-operational-advice-notes-stop-notes

The primary method of clean-up is using booms and skimmers. Practical evaluation of deployment should be considered, and the Environment Team may liaise with Environment Agency and Natural England resources. Advice on clean up strategy can be obtained from Natural England, Maritime &

Coastguard Agency CPSO, Tier 2 responder (Adler & Allan), and ITOPF, if involved. London Gateway does not maintain a stock of dispersants. Port of London Authority have a standing approval from the MMO for use, and are able to acquire dispersants through the MCA.

However under certain circumstances, the correct and appropriate treatment may be to leave the oil alone. Evaporation, dispersion, biodegradation will eliminate a large part of any oil spill. Therefore, if the oil does not threaten sensitive areas such as fisheries, beaches, it may not be appropriate to employ treatment methods.

The success of clean-up operations depends upon adequate planning and frequent training exercises in anticipation of an incident. Areas of coastline where booms or absorbents could be used should be identified, including details of substrate, sensitive areas, currents, and appropriate equipment configurations. Identification of any interim waste storage sites, treatment sites and disposal options should be made.

Regular exercises, in accordance with OPRC Guidelines are scheduled so that personnel are familiar with the equipment and procedures. Under Special Directions the London Gateway Harbour Master may request the assistance of any suitable marine craft available to participate in a clean-up operation. When oil has come ashore and the clean-up begins, it is important to maintain records of the activity (locations, numbers of workers, methods and equipment used, etc.), particularly on vulnerable and sensitive resources.

Samples should be taken of the oil from the spill site and at the source of the spill, as soon as possible. Refer to Section 2.8

2.6 Communications

The London Gateway Communications Manager will be a member of the Oil Spill Management Team.

The London Gateway Communications Team will initially issue a draft holding press statement confirming that an oil pollution incident has occurred.

The Company policy regarding the media, is that all matters are to be handled by the Communications Team in accordance with their procedures. Facts only will be given, and time will be taken to think through media statements, ensuring a balanced view of the incident.

For guidance, in the event of a Tier 2 or 3 incident, co-ordination between communications/press teams from London Gateway Port and the authorities (e.g., PLA, MCA and Environment Agency) would be anticipated.

The press and public should be kept firmly away from the site of where the oil spill has occurred and the clean-up operation. In the event of a significant incident, London Gateway will endeavour to provide a defined location within No. 1 London Gateway for the media to congregate while awaiting regular situation updates.

2.7 Waste Management

London Gateway Port has arrangements in place to deal with significant quantities of liquid or solid waste.

These include:

- IBCs for liquid storage
- Fast tank temporary storage.
- Storage tanks on TOSCA vessels
- Suction road tankers provided by Terminal or Tier 2 provider.

All liquid waste is to be transported by a registered waste carrier for subsequent treatment and disposal. The handling and disposal of waste oil storage is regulated by the Environment Agency under provisions of the Hazardous Waste Regulations 2005 (as amended)

2.8 Spill Assessment & Sampling

- Samples should be taken as soon as possible, by a qualified designated representative before the
 oil becomes weathered. A minimum of three samples should be taken for each spill location. These
 samples may be required as evidence in legal proceedings.
- A person nominated by the Harbour Master will collect the sampling kit from the Oil Spill Response Equipment container (located at East End of Quay) and check that it has the required equipment (bottles, sealing labels, scraping tools etc.) and reporting forms to record the sampling throughout the process. Samples shall be sent to the nominated laboratory for urgent analysis either on a 24or 48-hour turnaround.
- The time, date, location of sample and the name of the person collecting the sample should all be clearly recorded, with each sample given a unique identifier.
- Make sure the sample(s) are stored ready to be transported and kept in a cool place below 5°C, with the temperature, ideally always recorded. The use of a cool box should be used, if possible, to keep the samples cool whilst being stored pending collection for off-site analysis.
- Where shoreline pollution has occurred, local authorities or HM Coastguard would usually take the
 necessary samples, however independent samples will also be collected by London Gateway Port
 as described above and other environmental regulators may also do the same.
- The completed SToP notice should be sent to the MCA once the samples have been taken.
- Oil thickness can be quantified by using the guide shown in Table 7.

Table 7: Oil spill appearance and thickness

Appearance	Thickness
Silver Sheen	<0.0001 mm
Rainbow Sheen	0.0001mm - 0.003 mm
Light Brown/ Black slick	0.003mm - 0.1mm
Dark Brown/ Black slick	>0.1 mm

To determine an approximate quantity, the following formula should be used:

L (metres) x W (metres) x Maximum Thickness (mm) = Cubic Metres 10

Section 3 Data

3.1 Contact Directory

All contact details can be found in Appendix 14

3.2 Training

All personnel likely to be involved in a marine pollution incident at London Gateway need to meet certain training requirements and standards. There must be an adequate number of trained staff to be able to mount a Tier 1 response at any time. To achieve this all the Shift Duty Managers – (8 total) are trained to MCA Level 4P and at least 3 Shift Team Leaders per shift, are at least trained to MCA Level 2P. In addition, key Operational and Environmental Managers are also trained to MCA Level 4P. All training is conducted by a Nautical Institute accredited training provider.

Table 8: Training Levels London Gateway Port Personnel

Level	Details	No of Staff Qualified at London Gateway Port
Level 2P	Staff who will operate oil spill response equipment (mechanical containment) and need to be aware of correct and safe deployment techniques	12 persons
Level 4P	All personnel who will have a management role or be in a position of responsibility for port operations	12 persons

The required frequency of refresher training (one day) is 3 years from date of issue of previous training certificate. However, if 39 months has elapsed persons are required to undertake the full training for the specific course (four days for 4P level)

3.3 Exercises

London Gateway undertakes a series of exercises to familiarise personnel in the use and deployment of oil spill response equipment and incident management.

3.3.1 Types of Counter Pollution Exercise

• Notification Exercise. Used to test alert and call out procedures for response teams, test communication systems, availability of personnel, and test the transmission of information.

- Mobilisation Exercise. Used to test the actual mobilisation times of individuals and contracted resources, with or without warning. This exercise may be carried out in isolation or within the scope of another of the framework exercises.
- Table-Top Exercise. The degree of complexity can be decided by the exercise co-ordinator to
 test the emergency management knowledge and capability. During this exercise the capability
 to respond to a Tier 2 type spill and initiation of primary actions in event of a Tier 3 response,
 can be tested. This exercise can be combined with an equipment mobilisation and deployment
 exercise.
- Incident Management Exercise. This tests the capability of the local team to respond to a Tier 1, Tier 2 and Tier 3 type incident, integrating the roles of external bodies and organisations. This exercise will normally be facilitated by London Gateway's Tier 2 Responder. This may incorporate the Notification and Mobilisation Exercises.

Table 9: Exercise types and frequency

Exercise Type	Frequency
Notification exercise	Twice per year
Table-top exercise (may incorporate mobilisation and deployment of local response equipment)	Once per -year
Tier 1 mobilisation exercise	Twice per year
Incident Management Exercise (will incorporate mobilisation and deployment of resources up to Tier 2 level)	Once every 3 years*

In an instance where a port, harbour or oil handling facility considers this requirement unduly onerous based on the risk assessment, they may submit an alternative exercise programme to the Regional MCA Counter Pollution and Salvage Officer (CPSO) for consideration and approval, on an individual basis. In some circumstances it may be permissible to undertake an Incident Management Exercise in the fourth year of the plan's five-year life cycle providing for the "lessons-learned" to be captured within the final review/ update year.

An evaluation form is to be completed after every exercise. The Notification and Mobilisation Exercise reports are not required to be sent to the MCA CPSO but should be retained for inspection if required.

3.4 Environmental, Commercial and Recreational Sensitivities

3.4.1 Designated intertidal habitats and species

The LGPL jurisdiction overlaps with the Mucking Flats and Marshes Site of Special Scientific Interest (SSSI), which is located immediately west of the Port and underpins the Thames Estuary and Marshes Special Protection Area (SPA) and Ramsar Site. Beyond LGPL jurisdictional limits, Holehaven Creek SSSI is located a short distance east of the Port and Vange and Fobbing Marshes SSSI is located a short distance north/northeast of the Port. Up-river is the Swanscombe Peninsula SSI, designated in 2021, and includes saltmarsh and mudflat habitats which could be at risk from marine pollution from an incident affecting London Gateway.

LGPL's habitat compensation sites at Stanford Wharf Nature Reserve (Site A) and Salt Fleet Flats (Site X) are considered to be functionally linked to the SPA / Ramsar site.

The above designations, shown in **Figure 3** and **Figure 4**, are principally designated due to their role in supporting important non-breeding populations of estuarine waterbirds. Given their intertidal location, estuarine bird species and supporting habitats would be vulnerable to the effects of potential oil spillage / leakage.

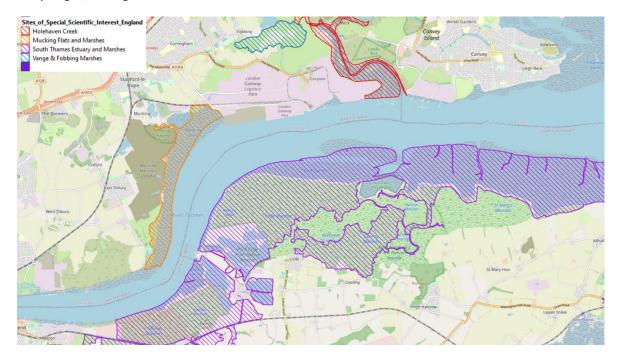


Figure 3a: SSSIs surrounding LGPL



Figure 3b Swanscombe Peninsula SSSI

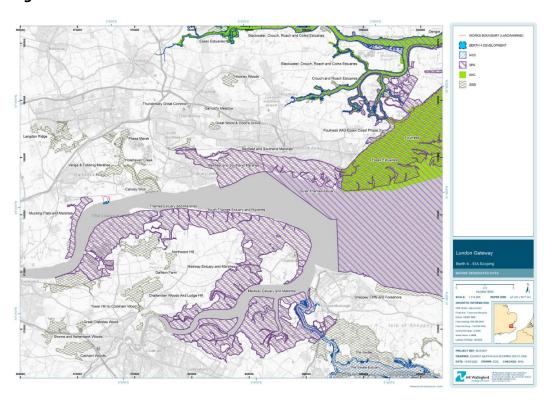


Figure 4: Marine designated sites in middle of the Thames Estuary

Other intertidal designations within the general Outer Thames area include Benfleet and Southend Marshes SPA, Medway Estuary and Marshes SPA and Foulness (Mid-Essex Coast Phase 5) SPAs (and

their underpinning SSSIs), all designated for non-breeding and / or breeding waterbird populations, and Essex Estuaries Special Areas of Conservation, designated primarily for intertidal estuarine soft-sediment and saltmarsh habitats. The Swanscombe MCZ, located upstream of the Port, is designated for intertidal mud habitats and faunal communities (including tentacle lagoon worm *Alkmaria romijni,* a Feature of Conservation Importance in England).

3.4.2 SPA supporting habitat

As noted, the Thames Estuary and Marshes SPA / Ramsar Site is located immediately west of the Port (overlapping with LGPL jurisdictional limits), and also encompasses the southern bank of the Thames opposite the Port. SPA supporting habitats (shown in **Figure 5**), namely inter-tidal mud and saltmarsh, extend across Mucking Flats, the compensation site at Stanford Wharf Nature Reserve (which, while owned by LGPL, is managed by the RSPB), Mucking Creek (located to the west of the compensation site) and adjacent foreshore areas. Similar habitats are present along the south bank of the Thames, at Blyth Sands, Cliffe Marshes and the compensation site at Salt Fleet Flats. As supporting habitats, maintaining the distribution, functionality and extent of intertidal mud and saltmarsh is critical for ensuring that Conservation Objectives of the SPA / Ramsar Site are achieved.

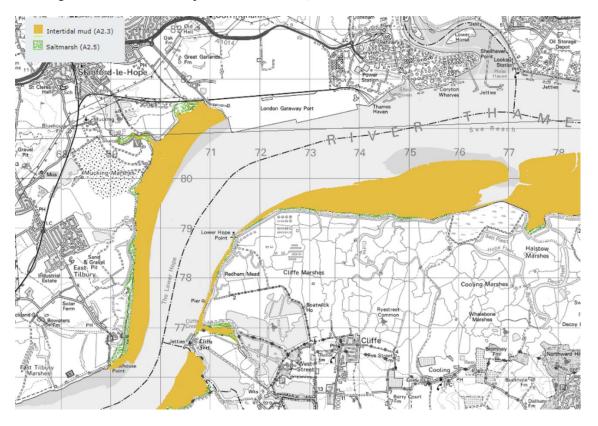


Figure 5: SPA supporting habitat surrounding LGPL

3.4.3 Other intertidal habitat

Elsewhere within LGPL jurisdiction, the foreshore comprises of artificially-installed revetments comprised of quarry run rock, the toe of which extend to the surrounding mudflat. Such habitat is found

at the western end of the Port estate. Along the existing berths in the Port, the marine interface comprises a sheer quay wall.

Designation	Reference/Location	Principal Reasons for Designation
Site of Special Scientific Interest (SSSI)	Mucking Flats and Marshes (immediately adjacent to the west of the Port)	Aggregations of non-breeding birds Invertebrate assemblage
	Holehaven Creek (located to the east of the Port along the eastern boundary of the Thames Enterprise Park)	Aggregations of non-breeding birds (black-tailed godwit)
	South Thames Estuary and Marshes (located opposite the Port on the south bank of the Thames)	Salt marsh Mudflats Grazing marsh Open water, ditches Aggregations of breeding birds Aggregations of non-breeding birds Invertebrate assemblage
	Vange and Fobbing Marshes (located to the north/north east of the Port, adjacent to Holehaven Creek)	Plant assemblage
	Swanscombe Peninsula	Saltmarsh & mudflats habitat
Special Protection Area (SPA)	Thames Estuary and Marshes (immediately adjacent to the Port.	Designated for supporting populations of a number of overwintering birds
Non-Designated - London Gate	way Port Habitat Compensation Si	
Stanford Wharf Nature Reserve	Located to the west of the Port	Circa 27 hectares of intertidal mudflat habitat. The site is of particular importance for wading birds and also has benefits for fish.
Salt Fleet Flats	Located opposite the Port on the south bank of the River Thames	Circa 65 hectares of intertidal mudflat and saltmarsh habitat. The site is of particular importance for wading birds and fish.

Table 10: Table summarising sensitive marine areas surround LGP

3.4.4 Sensitivity of inter-tidal habitats to oil spill

Just as nutrients collect in estuarine mudflats and salt marshes through nutrient trapping, many pollutants can also collect in the sediment. Microbial activity can decompose some pollutants, such as sewage, but others, such as heavy metals, are bio-accumulative. Micro-organisms occurring naturally in coastal mudflats have an essential role to play in cleaning up pollution by breaking down petrochemical residues. In a healthy marine ecosystem where the water is oxygenated, petrochemical contamination can biodegrade by micro-organisms, but if the oxygen supply is depleted by pollution and other processes leading to the breakdown of organic matter in the soil, the contamination will

persist. In a contaminated environment oxygen is quickly depleted and anaerobic breakdown (without oxygen) becomes an important mechanism for degrading contaminants.

The sensitivity of intertidal soft-sediment habitats (and the natural processes through which organic pollutants can be degraded) needs to be considered in determining an appropriate response strategy to an oil pollution incident.

Environmental monitoring after an oil spill may need to be implemented and this will be agreed with the relevant environmental authorities.

The sensitivity of rocky shores (such as that present on the revetment at the western end of the Port) to oil spills is mainly dependent on wave exposure. Exposed rocky shores are normally considered to be one of the least vulnerable habitats because oil is quickly removed by the high energy environment. During calm conditions in a sheltered estuarine system like the Thames, however, additional attention will be needed on such habitat as the intensity of waves may not be sufficient to remove / break up oil.

Natural England's 'Advice on Seasonality' for the Thames Estuary and Marshes SPA indicates that the core overwintering period of October to March represents the most sensitive period for SPA features, with significant use of the site also during the migration shoulder periods of April and July to September. Additional attention will be needed in the event of oil spill during these sensitive periods.

3.4.5 Subtidal benthic habitats and species

Subtidal monitoring surveys of infaunal and epibenthic faunal communities in the mid- to Outer Thames Estuary have been undertaken on behalf of LGPL since 2010. Subtidal sediments range from mud in shallow subtidal / lower intertidal areas to coarser sand and gravel in the centre of the river channel. Infaunal Communities are generally dominated by annelid worm species. A well-established and complex community of epibenthic fauna, comprising fish and invertebrates, is established within the vicinity of the Port. Species of conservation interest include diadromous species such as smelt and European eel, for which the Thames is an important migratory corridor.

3.4.6 Marine mammals

Compared to other areas within the UK, the presence of marine mammals in the Thames estuary is low (SCOS, 2016), especially upstream of Mucking (Evans and Anderwald, 2007). However, the Thames estuary is utilised by seals and transient cetaceans, notably grey seal, harbour seal and harbour porpoise.

3.4.7 Commercial fishing activity

The outer and mid Thames is an important spawning and / or nursery area for a number of commercially important fish and shellfish species, including sole, flounder, bass, mullet, herring, cockles and mussels. Cockles are the most valuable commercial species in the Thames estuary. The commercial harvesting of the cockles is regulated by Kent and Essex Inshore Fisheries & Conservation Authority (KEIFCA), cockle management areas are shown in **Figure 6**. Other important targeted commercial species include whelks, herring, and Dover sole.

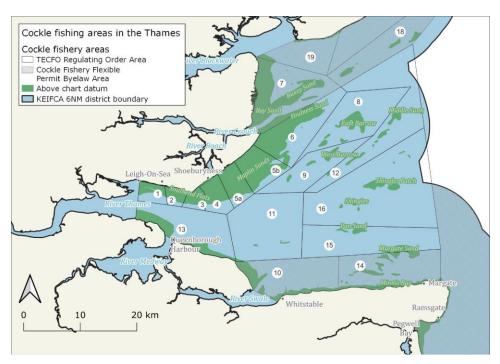


Figure 6: Cockle management areas in the Thames Estuary, showing two types of cockle fishery areas, as well as seabed above chart datum and sandbank names.

3.4.8 Recreational Activity

The recreational activity undertaken in the Thames Estuary surrounding LGPL mainly consists of sailing, yachting, power boating, jet skiing and fishing including angling. The nearest sites to LGPL are a slipway used by the Thames Fishing Angling Club on Mucking Creek, the Blue Circle Sailing Club at Cliffe, mooring and slipway at Holehaven Creek, the Chapman Sands Sailing Club and the Wat Tyler Country Park Marina. A map showing the key sites is shown in **Figure 7** and more information can be found at the PLA website <u>boatingonthethames.co.uk</u>.

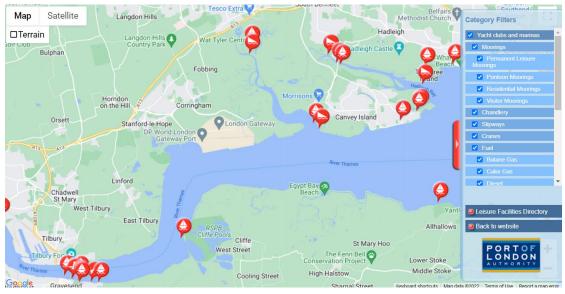


Figure 7: Recreational facilities nearby to LGP

3.4.9 Site Main Access Routes

Main entrance to LGPL (SS17 9DY) is the access road via the Sorrells Roundabout on The Manorway (A1014) (shown in **Figure 8**). The Port can be also accessed via the old Shell Gate 1, 2 or 3 roads that come off the Manorway in the case of an emergency and the main access road is blocked, however the appropriate gates will need to be opened by LGPL Security and escorted. Note Gate 3 road has a height restriction due to an overhead aviation fuel pipeline and so will not be appropriate for taller vehicles

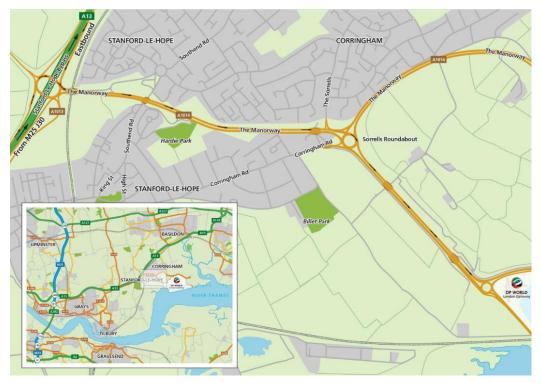


Figure 8: Access to LGPL

3.5 Counter Pollution Resources

London Gateway Port Limited has a stock of Oil Spill Response Equipment (see Table 7). In the event of a Tier 2 incident further external help and equipment from TOSCA and Adler and Allen will be required.

Table 11a: Port Spill Response Equipment & Resources

Spill response equipment reference	Contents	Location
Spill Bin 250 litre to 800 litres	Absorbent booms, pads and granules, plastic bags	20 x Various Port Locations (see Appendix 9)
20' Spill Container	See Table 7b below.	1 x Waterside Interchange
Mobile Spill Trailer	5 shovels 5 brooms 20 traffic cones and tape Absorbent pads Absorbent booms Industrial absorbent granules 15 coveralls 5 pairs of safety goggles Plastic gloves x 1 box Quick seal mix for fuel leaks Fire extinguisher x 2 (foam and dry powder)	1 x Waterside Interchange
Tugs	SOPEP equipped	Boluda Towage & Svitzer Towage
TOSCA (PLA)	Tier 1 Marine Response Equipment	Offsite – 2-hour response
Adler & Allen	Tier 2 Marine Response Equipment	Offsite – 4-hour response

Table 11b: Spill Container (Large) Equipment

Spill response equipment	Contents	Number
650 m Inflatable boom set	650 mm Inflatable boom – 10 m (S1-3)	3 Sections = 30m
	650 mm Inflatable boom – 20 m (L1-L5)	5 Sections = 100m
Towing Bridles	Towing bridle with wire	1 pair
Air Inflator	Blower PB 400	1
	Blower PB24LN	1
	Blower greenworks 40V 2.0 Ah battery	1
Fuel for the inflators	2 stroke engine oil	1 small bottle
Absorbents	3 m length sections of boom	Var
	6 m length sections of boom	Var
	Box of absorbent pads (oil)	5
	Box of absorbent pads (chemical)	3
Toolbox	Hacksaw	1
	Spanners	1
	Screwdrivers	Associated set
	Jubilee clips	Engineering stores
	Pliers/cutters	2
	Stanley knife	1
Duct tape		1 roll
Latex Gloves		1 box
Protection Suits		6
Blue heavy-duty waste bags		1 box
Shackles		Quayside stores
Torch		1
Fast Tanks		1
Empty waste oil drum		1
Rope with monkey fist		2
Anchors		2

In the event of cargo leaking oil, London Gateway Port has two trailers designed specifically to store a leaking container. Each trailer has a 30,000-litre capacity.

In addition, there is a leaking container facility located on the north side of the Port near to the railhead, which has a hazardous tank collection sump with a capacity of 8,000 litres. Under normal conditions (i.e., no container in the facility and sump being empty) the tank drains to surface water. This must be switched to full containment prior to use and clean-out of the tank is required after use.

Clean-out of this equipment can be arranged in co-ordination with the London Gateway Facilities Management Team and/or Environment Team. A specialist contractor may be sought, e.g., London Gateway's Tier 2 Contractor, to assist with the clean-out depending on the nature of the substance that has been contained. All materials will be disposed of in accordance with waste management legislation.

APPENDICES

Appendix 1	CG77 POLREP Initial Pollution Report
Appendix 2	Reporting Information – Environment Agency
Appendix 3	Action Response Cards
Appendix 4	Adler & Allan Activation/Reporting Information
Appendix 5	Risk Assessment
Appendix 6	Health & Safety Risk Assessment Checklist
Appendix 7	Checklists
Appendix 8	London Gateway Port Bunkering Risk Assessment
Appendix 9	Port Drainage Masterplan and Spill Kits Plan
Appendix 10	Ports & Harbours Annual Return Form
Appendix 11	Post Exercise and Incident Form
Appendix 12	Response in the UK "The Environment Group" SToP 2/16
Appendix 13	Useful links
Appendix 14	Contact Details

Appendix1 CG77 POLREP Initial Pollution Report

Reporting Information – Environment Agency

Appendix 3 Action Response Cards

Adler & Allan Activation / Reporting Information

Risk Assessment

Health & Safety Risk Assessment Checklist

Checklists

London Gateway Port Bunkering Procedures

Port Drainage Masterplan & Spill Kits Plan

Ports & Harbours Annual Return Form

Post Exercise Form

Response in the UK "The Environment Group"

Useful Links

Appendix 14 CONTACT DETAILS