Odour Management Plan

Site details

Site name: STOLTHAVEN DAGENHAM LIMITED

Site address: 31 HINDMANSWAY CHOATES ROAD. DAGENHAM RM9 6PU

Operator name: STOLTHAVEN DAGENHAM LIMITED

Permit number:

Who this plan is for:

- Who should be made aware of this plan? **All Stolthaven Dagenham Employees, Environment Agency officers and contractors working onsite**

- How will they be made aware? **Internal Email Communications**

Document owner

Document author: ADESEYE DURODOLA

Version number: 1

List of revisions

Revision number	Revision authorised by	Date submitted to Environment Agency	Revision owner

Contents

Table of Contents

1. Introduction

1.1 Site description

Stolthaven Dagenham limited is a ISO 9001 certified and COMAH top tier bulk liquid storage terminal. It is located on the river Thames, 15 miles from central London, with excellent hinterland connections and direct access to the A13 motorway and onwards to the M25, M11 and UK road network.

Since the terminal was acquired in 2012, it has been extensively modernised and expanded. Land is available to accommodate further expansion and customised storage requirements.

The total number of tanks is 113 and tank storage capacity is162,884m3 with tank range between 60 M^3 to 11,000 M^3 made up of mild steel, stainless steel and lined. Tanks are equipped with radar gauging systems, Remotely Operated Shutoff Valves (ROSOVs) and the latest fire fighting systems. The tank secondary containment systems have been upgraded to the latest standards, inspected and approved by the environment agency (EA) technical specialist.

Operational working hours are from 06:00am to 18:00pm Monday to Friday with flexibility to work 24/7 when required.

1.2 Maintenance and review of the OMP

The SHEQ Manager is responsible for managing the site odour management plan and he's got experience in managing any odour complaints and using Root cause analysis to resolve these issues. The SHEQ Manager and other employees have also undergone ISO 9001 Quality management system training.

- who (Job Title) is responsible for the OMP and ensuring people are trained? **SHEQ Manager**
- where is the plan stored? **The OMP is managed as a controlled document and stored in our P Drive,**
- state when the plan is reviewed. **The OMP will be reviewed every 3 years.**
- what training have the staff on site received to implement the OMP? **ISO 9001 Quality Management System (QMS)**
- how often are they trained and who delivers the training? **Undergone Root Cause Analysis training**
- any other information you feel is relevant.

1.3 Relevant sector guidance on which this OMP is based

- Provide titles, sources and publication dates of all guidance referred to when writing this OMP:
    1. Stolthaven Dagenham Safety Report April 2019
    2. Hedonics of Odours and Odour Descriptors: Journal of the Air Pollution Control Association, July 1984, Vol 34 No 7 Dravnicks A, Masurat, Lamm, R A

- any other information you feel is relevant:

++

2. Receptors

2.1. Receptor List

Table 2.1. Receptor list

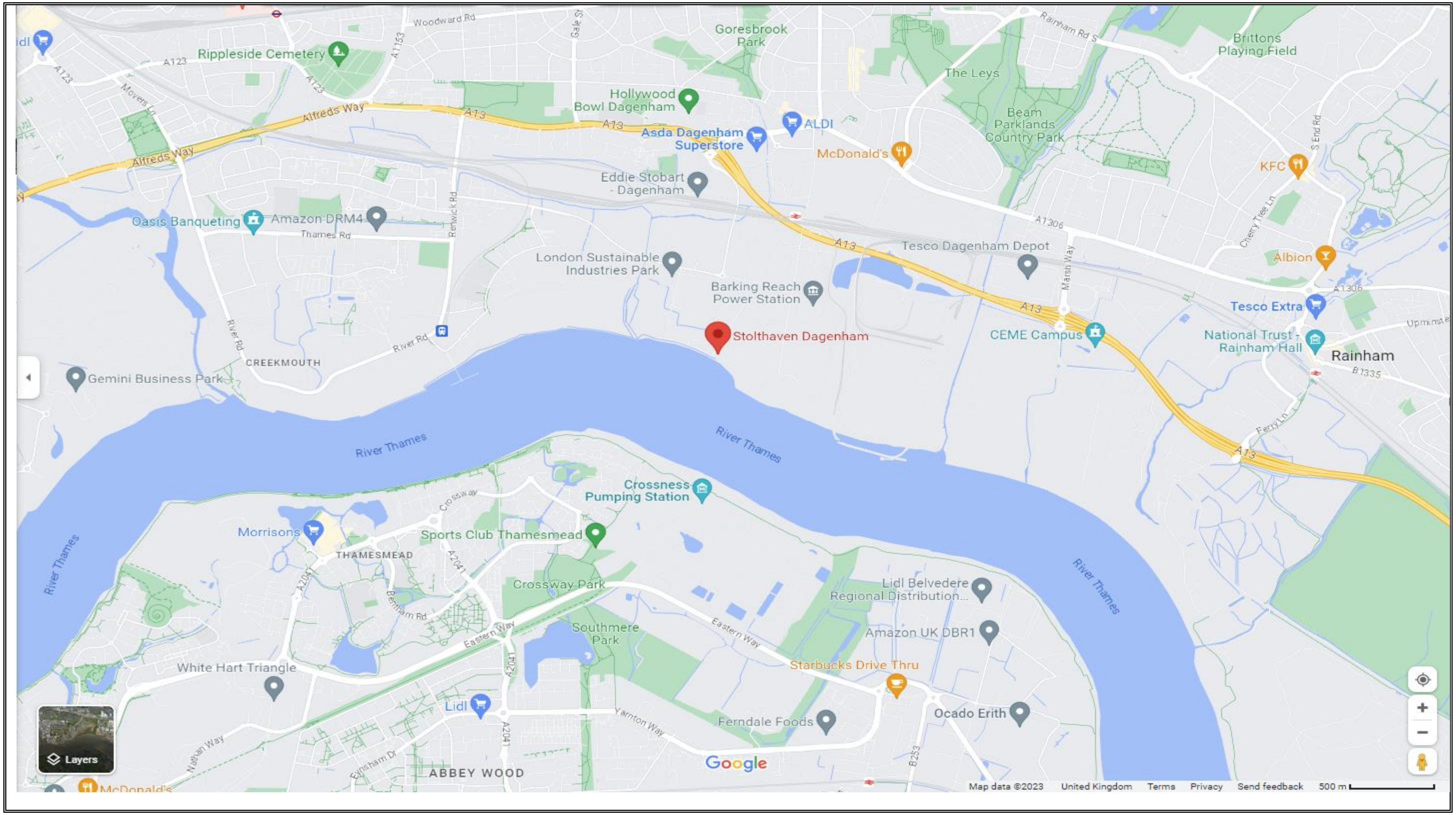
Receptor reference (A, B, C etc. Use to label Fig 2.1)	**Land use e.g. house, school, hospital, commercial**	**Direction from site (North, South, East, West)**	**Approximate distance to site boundary (m)**	**Sensitivity to odour** Low (e.g. footpath/road) Medium (e.g. industrial / commercial workplace) High (e.g. housing / pub / hotel etc.)
Paragon Customer Communications	**commercial**	North	Within 250m	Medium
United Molasses	**commercial**	North	Within 250m	Medium
White Skips Hire	**commercial**	North	Within 250m	Medium
Hunters Contracts	**commercial**	North	Within 250m	Medium
C&M Apostolides	**commercial**	North	Within 250m	Medium
Building and Structural Consultant Ltd	**commercial**	North	Within 250m	Medium
Riverside Autos	**commercial**	West	3701m	Medium
Eddie Stobart (Voltaic)	**commercial**	North	482m	Medium
European oak	**commercial**	East	1288m	Medium
Island Seafood	**commercial**	North	321m	Medium
Ocado Dagenham	**commercial**	East	1127m	Medium
Eurovia Roadstone	**commercial**	East	644m	Medium
British Hoverboard	**commercial**	East	805m	Medium
MM Supplies	**commercial**	East	644m	Medium
K & D Joiney	**commercial**	East	966m	Medium

Myrene Signs London Essez Nationwide	**commercial**	North	321m	Medium
East London Biogas	**commercial**	West	1126m	Medium
M Long Haulage & Luggaes	**commercial**	West	160m	Medium
M Long Haulage & Neptune	**commercial**	West	160m	Medium
CEMEX Dagenham (Cement and Ash)	**commercial**	West	1448m	Medium
Gill Aggregate	**commercial**	West	1288m	Medium
DBM Civils	**commercial**	West	1288m	Medium
Encon insulation	**commercial**	West	1127m	Medium
Monolith UK	**commercial**	North	805m	Medium
Hovis	**commercial**	North	805m	Medium
SPX Rail System	**commercial**	North	1288m	Medium
Godrand UK	**commercial**	North	805m	Medium
City Hire	**commercial**	North	805m	Medium
Thames Gatewa park	**commercial**	North	805m	Medium
Fresh Direct	**commercial**	North	1287m	Medium
Etag Fixings UK	**commercial**	North	1287m	Medium
Precision Proco Group	**commercial**	North	1287m	Medium
Barking Hospital	**Hospital**	West	4828m	Medium
Erith & District Hospi-tal	**Hospital**	North	Within 250m	Medium
Broad Street Medical Centre	**Medical Centres**	North	Within 2000m	Medium
Church Elm Lane Medical Practice	**Medical Centres**	North	Within 2700m	Medium
Heathway Medical Centre	**Medical Centres**	North	Within 3900m	Medium

Orchards Health Centre	**Medical Centres**	North	Within 4500m	Medium
Plumstead Health Centre	**Medical Centres**	North	Within 4900m	Medium
Riverside School	**Schools**	West	Within 5km	Medium
Riverside Primary School	**Schools**	West	Within 5km	Medium
George Carey C of E Primary School	**Schools**	West	Within 5km	Medium
Riverside Bridge School	**Schools**	West	Within 5km	Medium
Jo Richardson Community School	**Schools**	West	Within 5km	Medium
Goresbrook School	**Schools**	North	Within 5km	Medium
Hopewell School (Harmony House)	**Schools**	North	Within 5km	Medium
St Peters Catholic Primary School	**Schools**	North	Within 5km	Medium
The James Cambell Primary	**Schools**	North	Within 5km	Medium
Godwin Primary School	**Schools**	North	Within 5km	Medium
Thomas Arnold Primary School	**Schools**	North	Within 5km	Medium
Marsh Green Primary School	**Schools**	North	Within 5km	Medium
Dagenham Park C of E School	**Schools**	North	Within 5km	Medium
William Ford C of E Primary School	**Schools**	North	Within 5km	Medium
Village Infants	**Schools**	North	Within 5km	Medium
Beam Primary School	**Schools**	North	Within 5km	Medium

The Leys Primary	**Schools**	North	Within 5km	Medium
John Perry Primary School	**Schools**	North	Within 5km	Medium
The St Teresa Catholic Primary School	**Schools**	North	Within 5km	Medium
Hunters Hall Primary School	**Schools**	North	Within 5km	Medium
Richard Alibon Primary School	**Schools**	North	Within 5km	Medium
The Sydney Russell School	**Schools**	North	Within 5km	Medium
Trinity School	**Schools**	North	Within 5km	Medium
St Joseph Catholic Primary School	**Schools**	North	Within 5km	Medium
Roding Primary School	**Schools**	West	Within 5km	Medium
Southwood Primary School	**Schools**	North	Within 5km	Medium
Alamiyah School	**Schools**	North	Within 5km	Medium

Figure 2.1 Map of site location and receptors

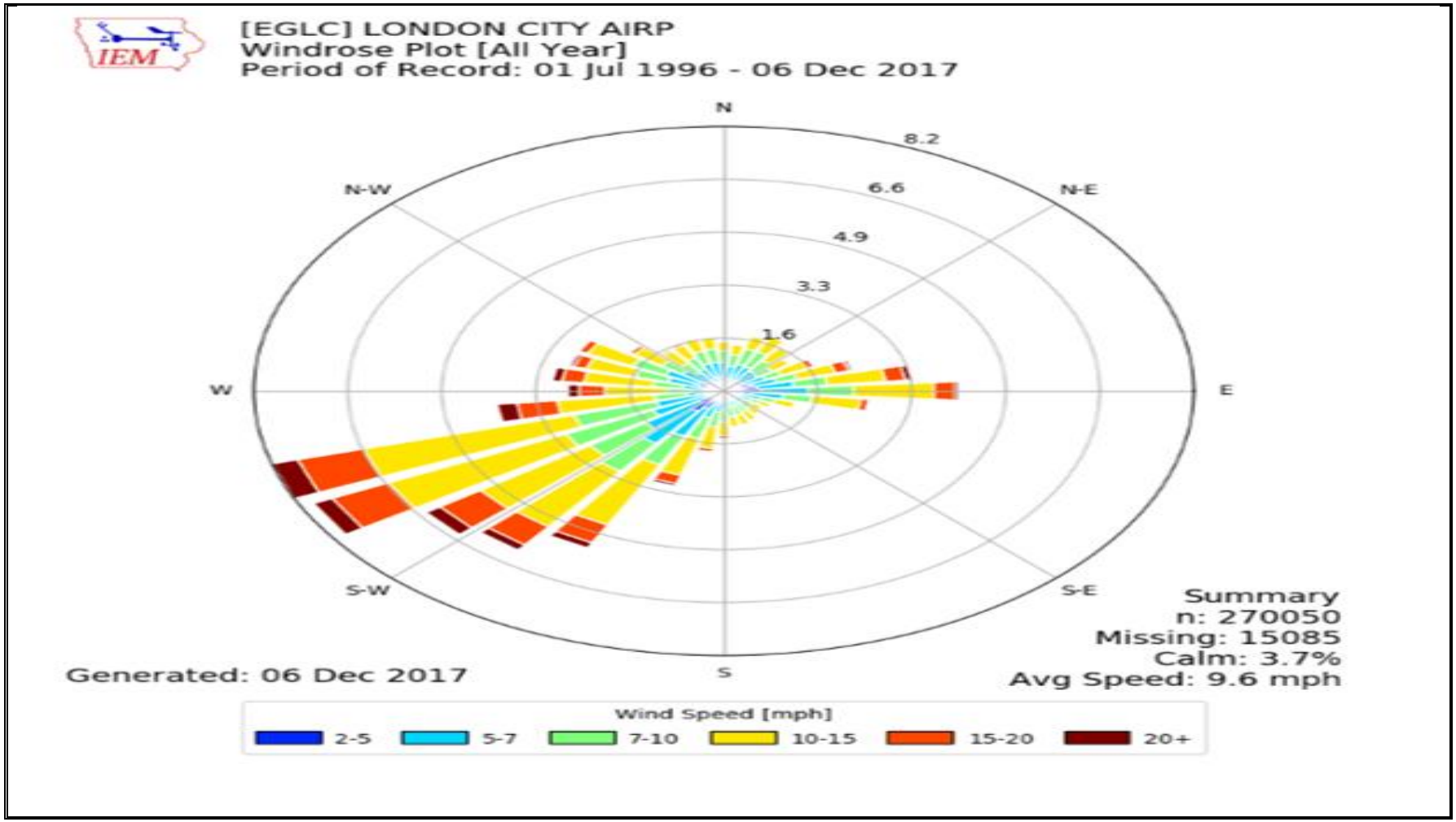

Stolthaven Dagenham
River Thames
Rippleside Cemetery
Goresbrook Park
The Leys
Brittons Playing Field
Hollywood Bowl Dagenham
Asda Dagenham Superstore
ALDI
McDonald's
Beam Parklands Country Park
KFC
Eddie Stobart - Dagenham
Oasis Banqueting
Amazon DRM4
London Sustainable Industries Park
Barking Reach Power Station
Tesco Dagenham Depot
Albion
Tesco Extra
CEME Campus
National Trust - Rainham Hall
Rainham
Gemini Business Park
CREEKMOUTH
Crossness Pumping Station
Morrisons
Sports Club Thamesmead
THAMESMEAD
Crossway Park
Lidl Belvedere Regional Distribution...
Amazon UK DBR1
Southmere Park
White Hart Triangle
Starbucks Drive Thru
Lidl
Ferndale Foods
Ocado Erith
ABBEY WOOD
Google
Map data ©2023 United Kingdom Terms Privacy Send feedback 500 m


McDonald's
Barking Reach Power Station
Ocado Dagenham
MANNS Skip Hire
Paragon
Eurovia Roadstone
Oil Storage Depot
Stolthaven Dagenham
Layers
Google
Imagery ©2023 Google, Landsat / Copernicus, Map data ©2023
United Kingdom
Terms
Privacy
Send feedback
50 m
2D

2.2. Wind rose and source of weather data

The weather data for the site is obtained via

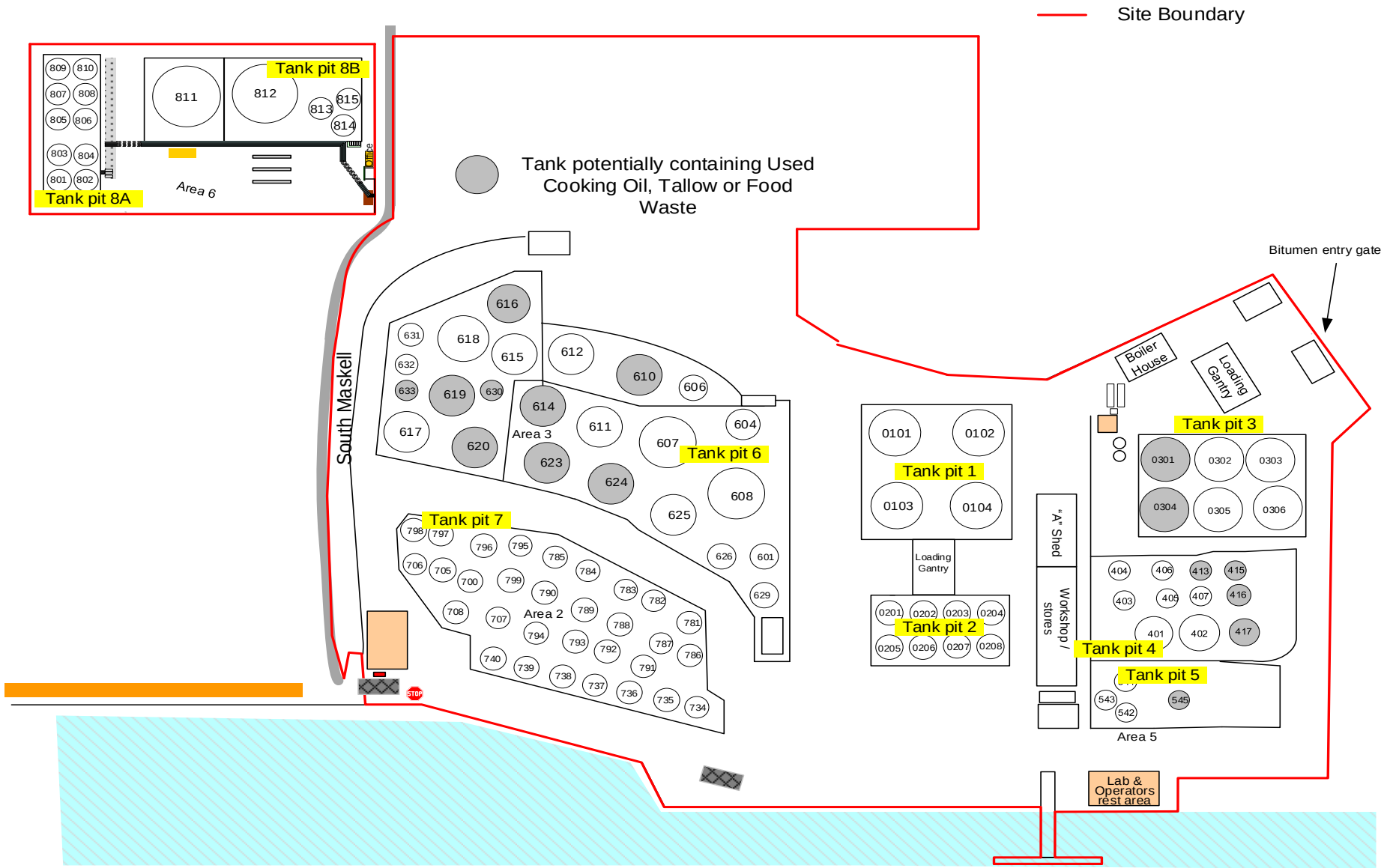
Figure 2.2. - Wind rose



Sources of odour and site processes

3.1 Odorous materials entering and leaving site

- how are deliveries made to the site e.g. road/rail/canal**? Delivery to used cooking oil (UCO), Tallow or food waste to site is through either road, ship or barge.**
- at what frequency does the site receive deliveries? **The delivery frequency is Daily.**
- what kind of containers is the material received in? **The product are transferred into storage tanks (Stainless steel or Mild steel)**
- are the vehicles sealed or covered? **Yes sealed**
- are customers / vehicle drivers provided with any special instructions about odorous loads? **Yes drivers are trained**
- what protocol is in place for unacceptable materials being delivered**? If you have a Waste Rejection Protocol this can be cross-referenced: Onsite laboratory carry out test of any vehicle loads which may not meet the required specification.**
- any other information you feel is relevant: **All procedures are already due to existing product stored.**


Site Boundary
Tank pit 8B
Tank pit 8A
Area 6
Tank potentially containing Used Cooking Oil, Tallow or Food Waste
South Maskell
Bitumen entry gate
Boiler House
Loading Gantry
Tank pit 3
Tank pit 6
Area 3
Tank pit 1
Tank pit 7
Area 2
Loading Gantry
Tank pit 2
"A" Shed
Workshop / stores
Tank pit 4
Tank pit 5
Area 5
Lab & Operators rest area
STOP

3.2 Odorous materials

Table 3.2 Odorous materials

Odorous and potentially odorous material (any solid, liquid or gas)	Odour potential High Risk / Medium Risk / Low Risk	Maximum quantity on site at any given day (tonnes per day or litres per day)	Maximum time held on site (hours or days)	Location of odorous materials on site	Additional comments
Used Cooking Oil (UCO)	**Low**	**20,000 tonnes**	**Continuous**	**Storage Tanks**	**All tanks are dedicated and sealed**
Tallow	**Medium**	**10,000 Tonnes**	**Continuous**	**Storage Tanks**	**All tanks are dedicated and sealed**
Food Waste	**Medium**	**10,000 Tonnes**	**Continuous**	**Storage Tanks**	**All tanks are dedicated and sealed**

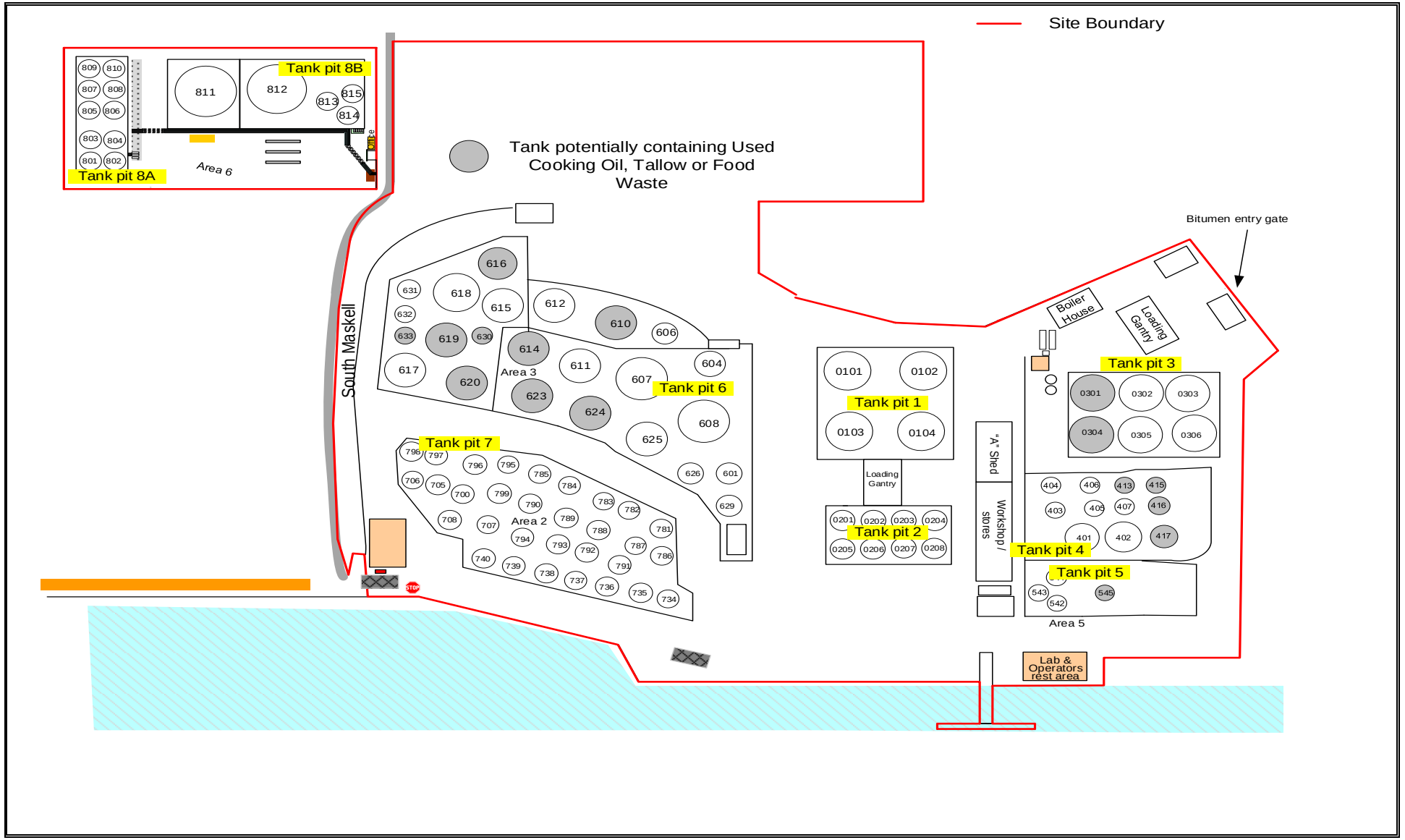
3.3 Overview of odorous processes and emissions

Provide a description (whether text / diagrams or tables) of the site layout and the processes carried out including the information in the bullet points below as a minimum. Use Figure 3.3 as a guide to show the site infrastructure relevant to any odorous processes carried out and the odour emission locations on your site e.g.

- name and type of buildings**: Storage tanks**
- if applicable, describe the building air ventilation system: **Standard venting as per API standard**

- loading and unloading areas,: **Dedicated loading and unloading points from respective storage tanks**
- storage areas,: **Storage Tanks**
- windrows, (if composting site), : **N/a**
- processing areas,: **N/a**
- which activities have the most odour potential e.g. a food and drink site may receive low to medium material delivered to site but processing (cooking) will mean this becomes high risk, :**No Activities produce any significant odour, however loading a ship may have the potential to produce some odour.**
- fixed plant and layout of equipment, e.g. trommel, conveyor etc, : **See attached site Map**
- locations of mobile plant,: **All fixed plant**
- odorous emission points,: **Tank vents at high level**
- risk associated with activity e.g. high medium or low,: **Low**
- any other information you feel is relevant: **All activities are already been stored on site for several years without odour complaints from neighbours**

Figure 3.3 – Site plan showing odorous process locations / odorous emissions / storage



3. Control measures and process monitoring

4.1 Appropriate measures / BAT

Table 4.1 Monitoring procedures for appropriate measures/ BAT

Odorous and potentially odorous process / material	Control measures (Appropriate Measure / BAT)	Monitoring frequency	Monitoring procedure and optimum process parameters	Trigger level	Action taken if outside optimum process parameters
UCO	Sealed Storage Tanks	Constant – ongoing through shift with site 24hrs site operation	Laboratory checks and available capaci-ties in storage tanks	No capacity due to tank be-ing full	No deliveries will be accepted until there is available space
Tallow	Sealed Storage Tanks	Constant – ongoing through shift with site 24hrs site operation	Laboratory checks and available capacities in storage tanks	No capacity due to tank being full	No deliveries will be accepted until there is available space

Food Waste	**Sealed Storage Tank**	**Constant – ongoing through shift with site 24hrs site operation**	**Laboratory checks and available capacities in storage tanks**	**No capacity due to tank being full**	**No deliveries will be accepted until there is available space**

4. Odour reporting

5.1 Complaints reporting

Site is regulated under competent Authority and visited on a regular basis by the environment Agency (EA) with a dedicated EA inspector (Tracey Cocker BSc (Hons) MRSC EPR Installations/Radioactive Substance Regulation Team Leader)

5.2 Community engagement

The site has Public information Zones (PIZ) as mandated under COMAH regulation

5.3 Pro-active odour monitoring

Constant – ongoing through shift with site 24hrs site operation any odour will be reported instantly and dealt with accordingly.

5.4 Reactive odour monitoring

Formal procedure in place as per ISO 9001 standard requirement

5. Abnormal events

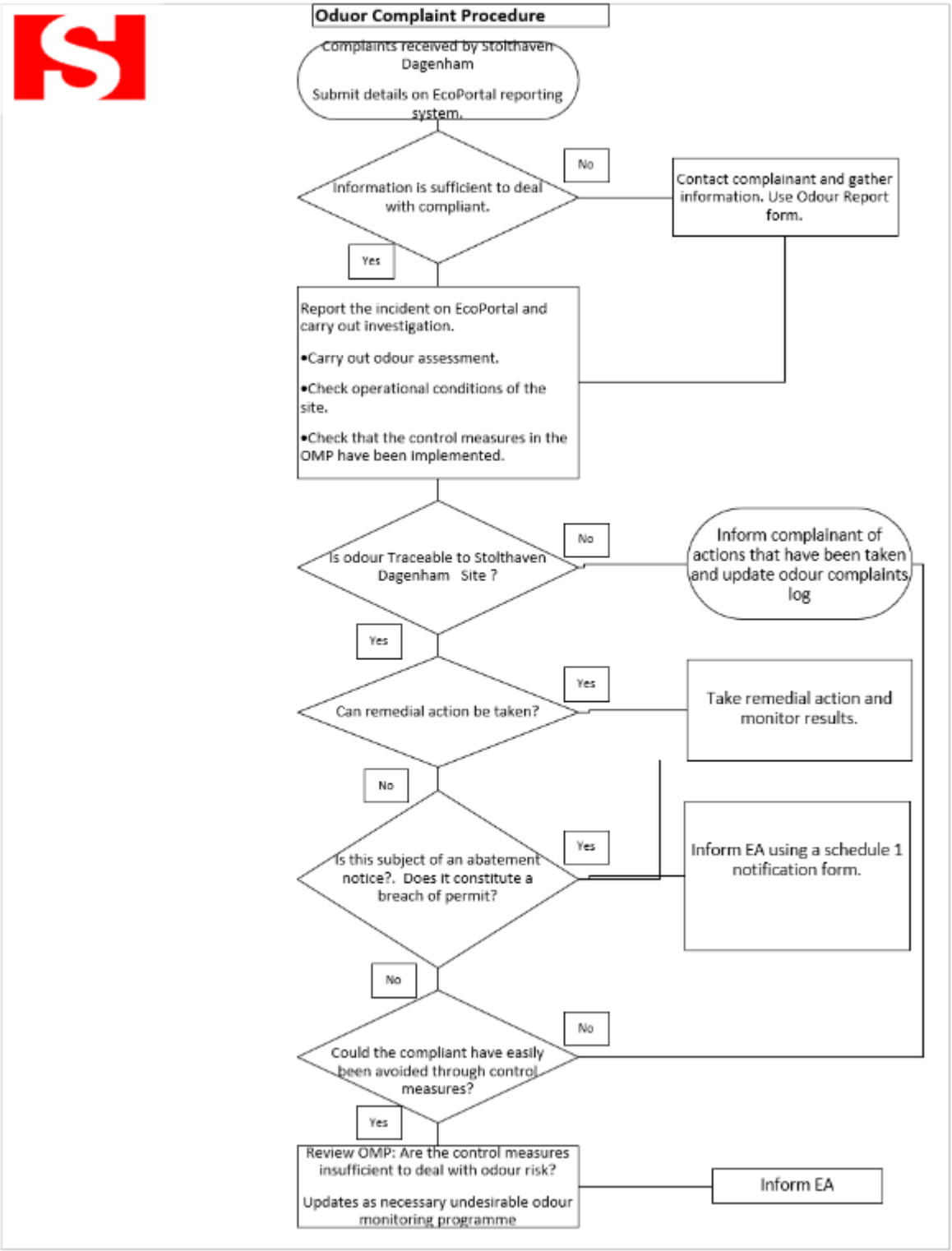
Table 6.1 Abnormal events

Abnormal event	Recovery steps
Tank Rupture	1. Tanks held on impervious concrete bunds. 2. Additional control with an inner low bund wall in place. 3. Maintenance management for tanks including 3 monthly visual inspections in place. 5. Inspection of tank in accordance to EEMUA 159. 6. Tank construction according to relevant codes. 7. Bund inspection program in place. 8. Tank repair kit available. 9. Establish communication with customers. 10. Identify options to re-route product streams via alternative pumps or truck bays. 10. If needed, determine options to quickly reinstate affected systems and infrastructure. Identify potential temporary solutions (e.g., empty tanks) 11. Verify updated Terminal operations schedule to determine the need to divert or cancel shipments. 12. If needed, consider declaration of Force Majeure after consultation with Corporate Management. 13. Recover product and contain as appropriate 14. Contractor's list prepared of disciplines required to provide immediate support for temporary solutions.
Major Oil Spill affecting entry / exit of vessels into terminal	1. Stolthaven is COMAH compliant. 2. Oil pollution control equipment and oil spill response ship in place. 3. Surveillance system (CCTV) in place with remote isolation on some lines. 4. Jetty sump has automatic pump to dedicated tank. 5. Member of Thames Oil Spill Clearance Association. 6. ESD buttons on Jetty. 7. Jetty operations are permanently manned with communication back to the control room. 8. Tank to tank transfers via the jetty (flexible hoses) have been significantly reduced. 9. Establish communication with customers. 10. Closely communicate with Port Authorities to determine clearance status for access to Terminal. 11. Verify updated Terminal operations schedule to determine the need to divert or cancel shipments. 12. Explore alternative logistical arrangements with customers. (e.g. Use tank containers or tank trucks). 13. If needed, consider declaration of Force Majeure after consultation with Corporate Management. 14. Single jetty, control over vessel movements beyond Stolthavens control.

Terminal Jetty out of order due to damage caused by fire or vessel impact	1. Jetty equipped with fixed and remote firefighting system. 2. Berthing / unberthing operation are conducted strictly to PLA guidelines with sufficient tugboats, mooring gangs & pilots. 3. Operations personnel attend to all the berthing / unberthing operations in close liaison with pilot. 4. Jetty draft checked, and PLA conduct hydrographic surveys of the river. 5. Navigation lights in place on the jetty permanently switched on. 6. Navigation of the River Thames is controlled by the PLA. 7. Known limitations to safe berthing of large vessels. 8. HVP inlet available for use by emergency responders on 7 jetty. 9. Jetty inspected annually by the PLA. 10. Establish communication with customers. 11. Closely communicate with Port Authorities to determine clearance status for access to Terminal. 12. Verify updated Terminal operations schedule to determine the need to divert or cancel shipments. 4. Explore alternative logistical arrangements with customers. (e.g., Use tank containers or tank trucks). 13. Ensure pre-established connections with suppliers for swift supply of equipment for repairs (e.g., portable fenders etc.). 14. If needed, consider declaration of Force Majeure after consultation with Corporate Management. 16. Single jetty, control over vessel movements beyond Stolthavens control.
Terminal Control Room inaccessible due to Fire Damage	1. The Control Room is air-conditioned to bring down heat generated. 2. Material in the Control Room is heavily insulated - not easy to catch fire. 3. Smoke detector located on ceiling in Control Room. 4. Extinguisher available inside Control Room. 5. The Control Room is manned 24/7. 6. Flammable liquids are not allowed to be brought into the Control Room. 7. Office building including ECC is now protected by a fire suppression water spray. 9. Switch to manual operations at site. (e.g., control of POV and pumps from Local control station; monitoring of tank parameter at tank site, etc.) 10. Deploy additional resources as required. 11. Initiate plan for a temporary control room (e.g., mobile container / offices). 12. Some systems (SCADA) can be operated from other areas such as the Bitumen control room. 13. Check SCADA operation from the MCC building.
Flooding/ Natural disaster (significant rain event,	1. Terminal flood preparedness study complete. 2. Flood warnings in place supported by the Environment Agency.

storm surge etc.)	3. Large tabletop exercise conducted on flooding event with key stakeholders including emergency responders. 4. Flood risk assessment carried out reviewed by EA. 5. On-site and off-site emergency plans. 6. Flood defenses in place and maintained. 7. Local tabletop exercise carried out in 2020 including flooding scenario. 8. Registered persons receive text messages from the environmental agency warning of flood. 9. Terminals vacuum tankers can clear rainwater from key areas. 10. More areas are connected to the local storm water drains. 11. Bund water management plan in place. 12. Effluent checks in place of bund, interceptors etc. 13. Assess nature of flooding event. (e.g., flash flood/ long term) 14. Execute flood/disaster contingency plan (e.g., opening tank manhole for empty tanks. 15. Evaluate damage/ duration of disruption to business. 16. Provide regular status updates to customers and stakeholders. 17. Prepare for the potential relocation of key office staff to the Romford office building or if possible, work from home. 18. If needed, consider declaration of Force Majeure after consultation with Corporate Management. 19. Communicate with Met Police/ LFB regarding access to site.
Power dis-ruption	1. Back-up generators available to hire at short notice. 2. UPS on some systems including fire system. 3. Emergency lighting in key locations. 4. Contract with vendor 24/7 standby. 5. Fixed fire system is diesel powered. 6. Backup generator for jetty including fire pumps. 7. Upgrade to a HV system is in progress. 8. Identify critical operating area / business affected. 9. Promptly update affected customers and divert shipments/ affected operations accordingly. 10. Activate contractor for alternative power supply to critical asset / operations.

	11. Consider alternative operating mode/ arrangement (e.g. loading via gravitation, air driven pumps where possible). 12. Deploy additional resources to operate site equipment. (e.g. generator/ manpower) 13. Sites has experience of running on generators as part of terminal upgrades.
Terrorist Attack	1. Trained Security Guards on site 2. Available 24hr CCTV coverage on site 3. Scan Training provided by MET police 4. 24hr Manned site 5. Information plan carried out by MET police (Counter Terrorism) 5 Twice daily visit from the Police 6. Regular contact with department of transport on security notices 7. Maintain situational awareness 8. Continue Scan training for all employee 9. Installing Intercom and locking of entrance gates (remote release locks install on the metal gates)
Arson	1. Trained Security Guards on site 2. Available 24hr CCTV coverage on site 3. Scan Training provided by MET police 4. 24hr Manned site 5. Information plan carried out by MET police (Counter Terrorism) 5 Twice daily visit from the Police 6. Regular contact with department of transport on security notices 7. Maintain situational awareness 15. Provide training for all employees on Arson prevention
Utility supply breakdown	1. Supply contracts in place for utilities like nitrogen, water, natural gas. 2. High variance investigations 3. More than a single provider for all utilities. 4. Explore options of alternate supplier or services or different modes (e.g., Using nitrogen tank/ bottles vs pipeline supply)
Cyber Security	1. Firewalls in place on OT & IT networks 2. Authenticator application in place for remote working. 3. Quick response to rebuild the OT system. 4. New hardware can be obtained in a reasonable timeframe. 5. Cyber security training provided by Stolt Nielsen. 6. Software backups in place. 7. Carry out cyber security risk assessment 8. Prepare for a HSE intervention on cyber security.
Mass resignation/ Strike against company	1. Salary Package is market compatible. 2. Overtime coverage. 3. Slowdown in activities. 4. Welfare programme and activities. 5. Engagement with workers union. 6. Seek Corporate Management advice.


Oduor Complaint Procedure
Complaints received by Stolthaven Dagenham
Submit details on EcoPortal reporting system.
Information is sufficient to deal with compliant.
No
Contact complainant and gather information. Use Odour Report form.
Yes
Report the incident on EcoPortal and carry out investigation.
•Carry out odour assessment.
•Check operational conditions of the site.
•Check that the control measures in the OMP have been implemented.
Is odour Traceable to Stolthaven Dagenham Site ?
No
Inform complainant of actions that have been taken and update odour complaints log
Yes
Can remedial action be taken?
Yes
Take remedial action and monitor results.
No
Is this subject of an abatement notice?. Does it constitute a breach of permit?
Yes
Inform EA using a schedule 1 notification form.
No
Could the compliant have easily been avoided through control measures?
No
Yes
Review OMP: Are the control measures insufficient to deal with odour risk?
Updates as necessary undesirable odour monitoring programme
Inform EA

Odour Report Form

Site Location	
Date	

Complaints received	Complaints received		
Complaints received		Number of Complaints	
Complaints received		Date and time of Complaint(s) Noticed	
Complaints received		Date and time of Complaint(s) received	

Time of weather assessment	
Wind Speed	
Wind direction	
Air temperature C	
General weather conditions	

Test location	Time	Intensity (0 to 6)	Offensiveness (0 to-4)	Description of odour	Potential Sources within site	External Sources
North boundary						
East boundary						
South Boundary						
West boundary						

Intensity Scale	
Score	Intensity
0	No Oduor
1	Very faint odour
2	Faint Odour
3	Distinct odour
4	Strong odour
5	Very Strong odour
6	Extremely

Offensiveness Scale	
Score	Perceived Hedonic Tone
0	No odour/Neutral odour
-1	Mildly unpleasant
-2	Moderately unpleasant
-3	Unpleasant
-4	Very Unpleasant

Comments	
Action Required	
Name	
Signature	