



STOLTHAVEN DAGENHAM LTD WASTE PERMIT APPLICATION OPERATING TECHNIQUES

Report for: Stolthaven Dagenham Ltd

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Glossary

Abbreviation	Definition
BAT	Best Available Techniques
BAT-AEL	Best Available Techniques – Associated Emission Level
BATc	Best Available Techniques Conclusions
BREF	Best Available Techniques Reference document
COMAH	The Control of Major Accident Hazards Regulations 2015
CMS	Continuous Monitoring System
CMMS	Computerised Maintenance Management System
CIP	Clean in Place
DAA	Directly Associated Activity
EHSM	Environmental, Health and Safety Management System
ELV	Emission Limit Value
EMS	Environmental Management System
ENE	Energy Efficiency
EA	Environment Agency
EPR	The Environmental Permitting (England and Wales) Regulations 2016
ETP	Effluent Treatment Plant
EWC	European Waste Catalogue
HGV	Heavy Goods Vehicle
IED	Industrial Emissions Directive
MAPP	Major Accident Prevention Policy
OMP	Odour Management Plan
SMS	Safety Management System
SHEQ	Safety, Health, Environmental and Quality
TCM	Technically Competent Manager
TP	Tank Pit
UCO	Used Cooking Oil

1. INTRODUCTION

1.1 BACKGROUND

Ricardo was commissioned by Stolthaven Dagenham Ltd (SDL) to support a bespoke permit application (reference EPR/MB3004LK/A001) for its facility in Dagenham, hereafter referred to as “the facility”.

This report presents an assessment of the compliance and implementation of the appropriate measures for the storage and treatment of non-hazardous wastes.

The waste activities proposed are not listed in Schedule 1 of the Environmental Permitting (England and Wales) Regulations 2016 (EPR). The activities do not align with standard rules permit conditions, therefore a bespoke waste permit is required.

Waste management activities at the facility will involve the storage and treatment of up to 300,000 tonnes per annum of non-hazardous used cooking oil (UCO), acid oil, food waste and animal fat (tallow), pending further onward transfer for recovery into biodiesel.

No hazardous waste will be accepted, treated or stored.

The facility currently operates in full compliance under a S2 waste exemption (reference WEX256022). The exemption allows the safe storage of up to 5000 tonnes of waste edible oil and waste animal fat (EWC 20 01 25), for up to 12 months.

Non-waste activities, involving the storage of chemicals and fuels, are already undertaken at the facility and the waste activities will take place alongside the existing activities.

The facility currently operates as an upper tier site under the Control of Major Accident Hazards Regulations 2015 (COMAH), which aims to prevent and mitigate the effects of major accidents involving dangerous substances which can cause serious damage/harm to people and/or the environment.

Under COMAH, risks to the environment are considered as well as risks to people. COMAH sites are regulated by the Health and Safety Executive (HSE) and the Environment Agency (EA) as the competent authorities.

SDL holds and maintains an Environmental, Health and Safety Management System (EHSM) which supports the Major Accident Prevention Policy (MAPP). The implementation of the MAPP is aimed at minimising the risk from hazardous substances capable of causing a major accident. Since being acquired by SDL in 2012, the facility has seen vast investment and upgrading to meet, and in some areas exceed, the latest COMAH regulatory requirements.

SDL holds and maintains a company quality management system (EMS) accredited to ISO 9001 and ISCC certification 2022 and is committed to continual improvement of its engineered infrastructure and operating techniques.

1.2 ENVIRONMENT AGENCY PRE-APPLICATION ADVICE

SDL sought pre application advice from the Environment Agency through the pre-application advice service. A nature and heritage conservation screening report were undertaken for a bespoke waste permit. The screening report identified sites that must be considered as part of a bespoke permit application. The sites are also identified and highlighted in the Environmental Risk Assessment (ERA) accompanying the permit application.

2. LISTED ACTIVITIES

2.1 PRIMARY ACTIVITIES

The facility’s proposed primary waste activities are listed in Table 1 below.

Table 1: Proposed Activities

Description activities for waste operation	Limits of Activities
<p>R3: Recycling/ reclamation of organic substances which are not used as solvents</p> <p>R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)</p>	<p>No more than 300,000 tonnes of non-hazardous wastes per annum to be stored.</p> <p>No more than 55,000 tonnes of waste to be stored on site at any one time.</p> <p>All storage of wastes will be undertaken in engineered and sealed storage tanks, located in impermeable bunds with 110% capacity of the largest tank.</p> <p>Physical treatment shall consist of steam heating conducted within the storage tanks.</p> <p>All waste shall only be stored pending transfer off site for recovery purposes.</p> <p>Wastes shall not be stored longer than 6 months.</p> <p>There shall be no importation, treatment or storage of hazardous wastes.</p>

2.2 DIRECTLY ASSOCIATED ACTIVITIES

Directly associated activities (DAA) are defined as operations that have a technical connection with the primary activity/s, are carried out at the same site as the primary activity/s and have the potential to cause pollution. The DAA that are proposed for the facility are listed in Table 2 below.

Table 2: Proposed Directly Associated Activities

Directly Associated Activity	Description of Specified Activity
980kwh boiler	Operation of a 980 kWh natural gas fired boiler for the generation of steam for the heating of tanks containing wastes.
Effluent treatment plant	Contaminated liquids such as fire water or spillages are contained in the site's sealed drainage system. The liquids can be diverted to the onsite effluent treatment plant (ETP), then discharged to foul sewer under a trade effluent discharge consent.
Surface water	Collection and discharge of uncontaminated surface water to surface water drains.

3. THE FACILITY

The facility, shown Figure 1 and Figure 2 below, will import and store up to 300,000 tonnes per year of wastes, namely Tallow (animal fat), UCO, food and acid oil waste. These waste types are detailed in Table 3 below. Wastes will be stored pending onward transfer to other permitted facilities for recovery. The wastes will be transferred to and from the facility by road and shipping tankers docked on the River Thames.

Figure 1: Site Operations Storage Plan (main facility)

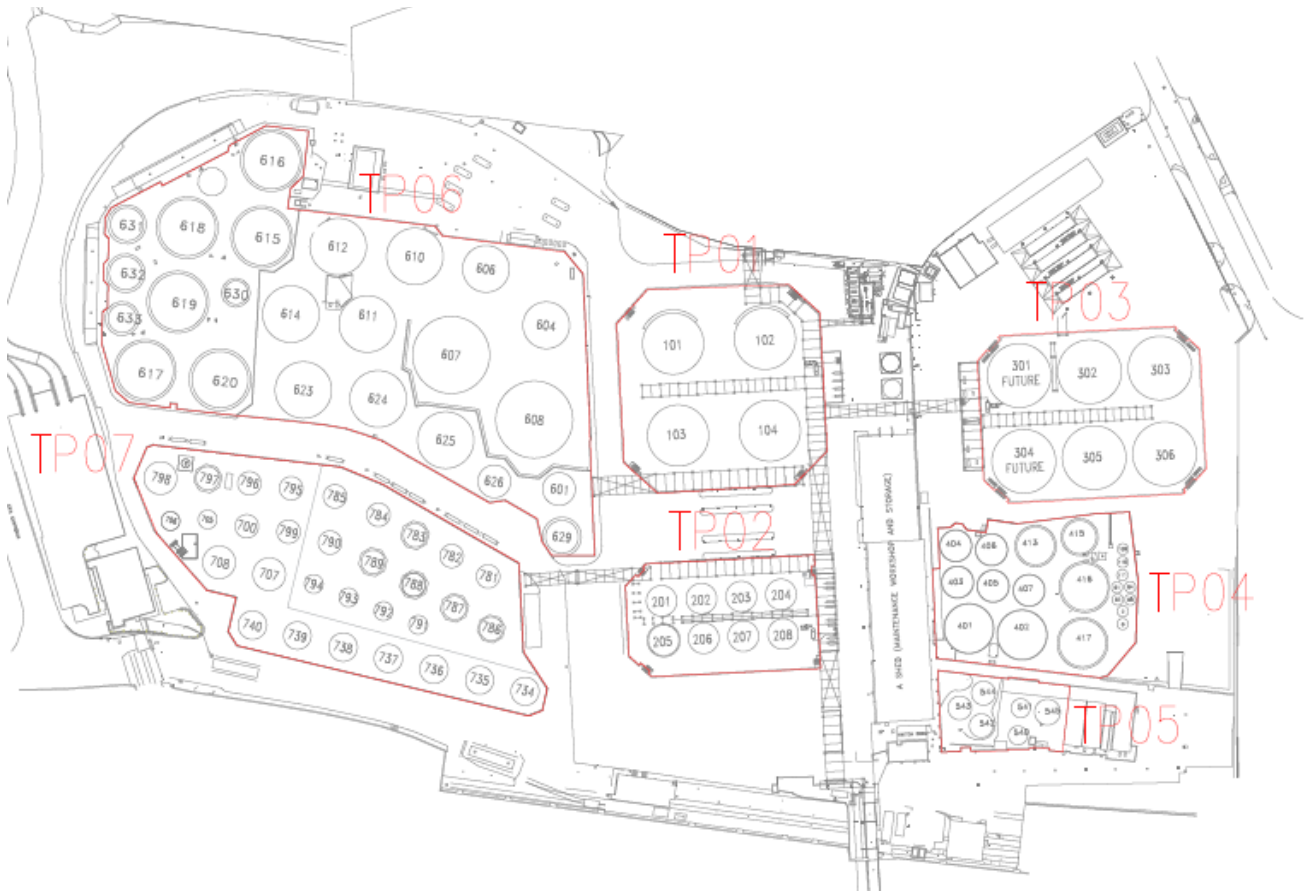


Figure 2: Site Operations Storage Plan (Northwest area of the facility)

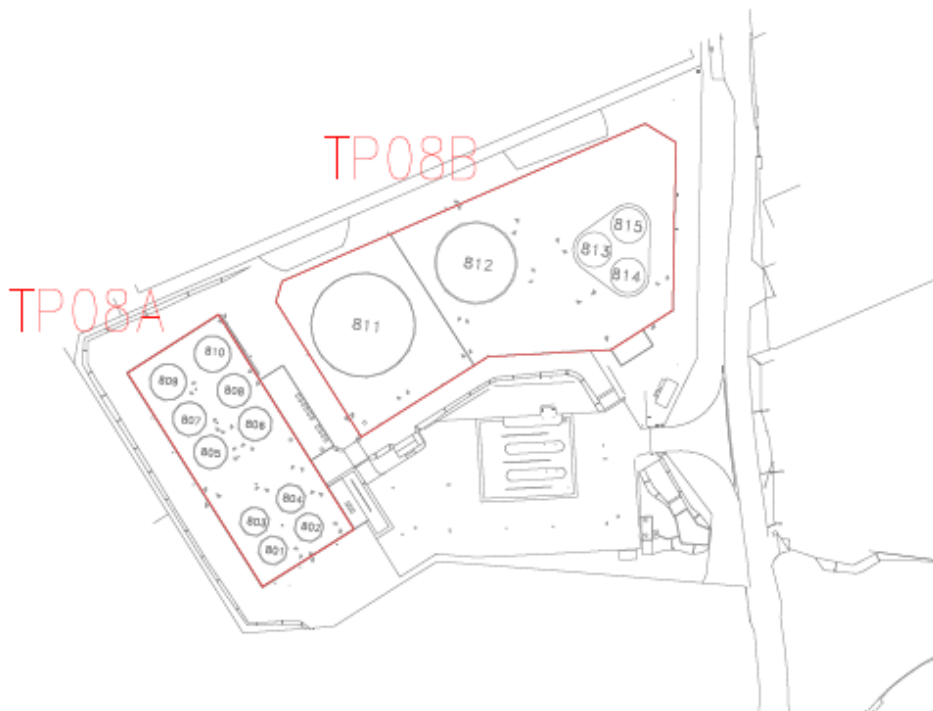


Table 3: Summary of the Facility

Item	Details
Site address	Stolthaven Dagenham Ltd, Choats Road, Dagenham, RM9 6PU
National Grid reference (site centre)	TQ 48822 81930
Site area	2 ha.
Total annual quantity of waste accepted at the facility	300,000 tonnes.
UCO storage capacity (at any time)	25,000 tonnes.
Food waste storage capacity (at any time)	10,000 tonnes.
Tallow storage capacity (at any time)	10,000 tonnes.
Acid oil storage capacity (at any time)	10,000 tonnes.
Operating hours	24 hours a day, 7 days a week.

3.1 SUMMARY OF WASTE PROCESSES

Wastes will be stored pending onward transfer to other permitted facilities for recovery and refining into biodiesel. The wastes will be transferred to and from the facility by road tankers and by marine shipping tankers which will dock alongside the facility on the River Thames.

Waste will be sent for recovery and not disposal. No hazardous waste will be accepted, treated or stored at the facility.

The following activities will take place:

1. Waste transfer (incoming) pre acceptance.
2. Waste acceptance.
3. Waste handling and transfer by pipe.
4. Storage in tanks.
5. Constant gentle heating of tanks by steam raised from an on-site natural gas boiler.
6. Waste transfer by pipe (outgoing).

4. OPERATING TECHNIQUES

4.1 PRE-ACCEPTANCE

SDL recognises the importance of written waste pre acceptance checks to make sure that only waste that is compliant with the environmental permit conditions is accepted at the facility, and to minimise the risk of environmental harm and harm to human health.

Pre-acceptance procedures will be implemented by SDL's staff. The staff will be provided with pre-acceptance training and refresher training will be conducted on an annual basis. All training records will be maintained and retained for the lifetime of the permit.

SDL's staff will ask the following questions of the waste producer/customer:

- The waste producer/customer contact details and/or account information.
- The description of the waste.
- The waste's List of Wastes Regulations code, also known as the European Waste Catalogue code (EWC).
- The source of the waste and the process that it came from.
- The nature, composition and physical form of the waste.
- The quantity (in tonnes).
- Proposed transfer method and container type.

- Proposed transfer time and date.
- Any potential risks or special storage and handling requirements.
- The material safety data sheet or COSHH data sheet.
- An estimate of future load quantity and frequency.
- Results of any waste sampling and analysis undertaken.

SDL’s staff will check the waste is allowed to be accepted at the facility under the permit conditions and that the facility has the capacity to receive the quantity of waste proposed.

Most waste received at the facility will be from regular account customers, that will provide reasonably consistent waste types and quantities.

All waste transfers and the relevant information will be uploaded and recorded by SDL’s staff onto an internal stock tracking system called ‘Alias’. This allows for all waste and products that are in the care of SDL to be tracked, including its description, quantity, storage location and any potential hazards or risks posed.

All waste sampling results shall be recorded and retained on the Alias system and records will be retained for the duration of the permit.

4.2 WASTE ACCEPTANCE

Waste will only be transferred to the facility once pre acceptance checks have been completed. Following the pre-acceptance checks, SDL’s staff will make sure that there is storage capacity at the facility.

Upon arrival, HGV tankers will be directed to the weighbridge and weighed in and shipping tankers will dock on the River Thames dock.

All waste loads will be accompanied with a paper or electronic waste transfer document or, if imported from another country, an annex VII document in compliance with International Waste Shipments requirements. Prior to the transfer of waste to the facility’s storage tanks, the information will be reviewed by trained staff, to make sure the documents:

- Are completed correctly.
- Contain information consistent with the pre acceptance information provided by the customer.
- Contain a description, EWC code and quantity that are consistent with the waste load.
- Confirm that no hazardous waste is present in the load.

Any non-conformance, error or missing information will be recorded and immediately addressed with the customer or delivery driver. Minor typos or errors may be easily rectified immediately by contacting the delivery driver or customer. More significant issues, such as absent or incorrect information, will require the transfer to be postponed until further investigation and resolution. Any non-conforming or misdescribed wastes will be rejected, in which case the producer will be contacted and the waste load returned immediately.

Only the wastes listed in Table 4 shall be accepted at the facility.

Table 4: Acceptable Wastes

EWC Code	Waste Descriptions
02 03 04	Material unsuitable for consumption or processing - acid oil.
20 01 08	Biodegradable kitchen and canteen waste - food waste.
20 01 25	Edible oils and fats – used cooking oil and tallow.

4.3 WASTE MEASUREMENT AND REPORTING

All wastes received and exported from the facility will be accurately measured by volume or weight and record entries will be made in tonnes.

All road tanker loads incoming and outgoing will be weighed on the site’s weighbridge and the records retained. The weighbridge is regularly calibrated.

All loads piped from shipping tankers, or piped from the adjacent Olleco site, will be measured by using a fiscal flow meter fitted in the pipeline. The meter will provide an accurate measurement of the quantity of waste

entering or leaving the site via pipework. All waste will be monitored and traced at all times, and the data will be recorded and retained on the Alias tracking system for the lifetime of the permit.

Waste quantity data will be used to provide a waste return to the Environment Agency within one month at the end of each quarter. The return will detail the quantity of waste (tonnes) received and removed from the facility and the details of the technically competent management. The waste return information shall also be retained by SDL for the lifetime of the permit.

4.4 WASTE SAMPLING

All waste arriving at the facility, either by shipping or HGV tanker, will be sampled prior to being transferred to the facility and accepted. This will make sure the waste is suitable and is acceptable under the permitted conditions and does not pose a risk to human health or pollution risk. HGV tankers will be directed from the weighbridge to the unloading bay. This area will be constructed with impermeable surfacing and will have the benefit of sealed drainage. Spill-kit equipment will be deployed around this area in case of small spillages.

There is a 10 mph speed limit at the facility and a one-way system will be enforced to prevent possible accidents/ collisions.

Incoming HGV tankers will be held in a parking waiting area and representative samples will be taken from each individual tank by a site chemist wearing appropriate personal protective equipment, using the ISO 5555 sampling procedures. The International Standard describes methods of sampling crude or processed animal and vegetable fats and oils. All loads and tankers will be dipped, and representative samples taken in accordance with ISO 5555.

Samples will be analysed, at the facility's on-site laboratory, for moisture, impurities and free fatty acids (FFA). A visual inspection and odour check will also be conducted. Analysis will be undertaken by a trained chemist.

The chemist will confirm whether the waste contains unacceptable levels of contamination, whether it matches the waste description and EWC code in the duty of care documentation and whether it complies with waste permit conditions. The chemist will immediately report the findings of the analysis to the site operator to confirm whether waste transfer/ unloading can proceed.

All sample and analysis information and results will be recorded and retained on Alias.

4.5 WASTE REJECTION PROCEDURES

If a waste sample's analysis fails the requisite criteria and is deemed unacceptable, unduly contaminated, or non-conforming waste, a second representative sample be obtained to retest the waste. If the second waste sample fails then the failure will be reported to SDL's customer services team, who will contact and inform the customer/producer that the load has failed the waste acceptance procedures and cannot be accepted. The customer will be informed that they must organise the transfer of waste back to their site within 24 hours.

The sample analysis results from all waste loads accepted or rejected will be recorded and retained on the Alias tracking system.

4.6 WASTE HANDLING, TRANSFER, UNLOADING AND LOADING.

SDL has years of experience and a proven track record in the safe management of the unloading, storage and transferring of bulk liquid chemicals at the site.

SDL has robust COMAH safety standards, procedures and infrastructure already in place at the site and the operating processes and procedures will be bolstered, for the waste side of the operations, by technically competent managers and trained and qualified site operators.

All transfers of waste to and from the facility will be supervised and controlled by appropriately trained site operatives. All operatives will wear appropriate personal protective equipment (PPE) and follow the site-specific discharge procedures. The handling and unloading techniques and procedures will vary depending on the transfer method.

HGV road tanker transfers – All vehicles manoeuvring around the site must abide by the 10mph vehicle speed limit and road signage. All road HGV tankers entering and leaving the site are required to be weighed on the weighbridge and all associated waste transfer paperwork will be checked.

The HGV will be directed to a designated unloading bay by an SDL operative.

Flexible piping is connected by the driver, under SDL supervision, and valves and connections are checked. Waste is pumped via the pipes and into allocated storage tanks. The SDL operative will instruct the driver on

the emergency shutdown procedures and blocked filter procedure. The driver will complete discharge, close down valves and uncouple piping, under SDL supervision.

The detailed road tanker procedures are detailed in SDL's safety management system (SMS) (see Appendix A - SMS procedures for HGV tanker and vessel discharge).

The drainage systems within the HGV delivery area will be concreted and engineered in a manner to provide sealed containment from spillages should they occur. Any spillages in this area will be controlled and contained within the site tertiary containment.

Shipping tanker transfers – After docking, waste acceptance and sampling, waste loads from shipping tankers will be pumped in pipework to the storage tanks.

A waste discharge plan will detail the quantities involved and details such as the multiple filling of tanks and their sequence. Pre-transfer checks are essential to make sure that the facility has the storage capacity prior to unloading.

Any marine craft incidents on the river are controlled by the Port of London Authority and are outside of the influence of SDL. However, site personnel are trained by the local fire brigade to tackle small fires, and the site's jetty has a firewater drench system that is regularly inspected by the Port of London Authority and the Local Fire Authority.

Section 5.34 of the SMS and MAPP provides the procedures for ship to shore transfers.

Transfer pipelines along the jetty and on site will be prepared, pressure tested and checked, to prevent any leaks or spillages. Spillage kits located in yellow bins will be located on the jetty, containing absorbent granules, clay mat covers and absorbent booms.

All pipework on site is located above ground, except in a small section under road at Hindsman Way. This links the pipework from the main site to the tank pit 8A and 8B at the site.

Above ground pipework allows for ease of inspection and monitoring during transfers, to identify possible leaks.

Engineering work on pipelines and the installation of new pipelines are completed to appropriate welding codes and are radiographically inspected.

As part of the site's ongoing Mechanical Integrity Programme, all pipelines are inspected regularly and hydraulically tested, as required. The tests are witnessed by a competent third party.

There are a minimum of two isolation valves on pipework between tanks, or between a tank and the jetty.

The transfer of all piped wastes onto and off the facility, will be tracked and monitored by a fiscal meter fitted in the pipeline. This data will be recorded and retained on the Alias tracking system.

During transfer, pipes, tanks, valves and the jetty line are monitored and inspected every hour, to check for potential leaks which would be quickly detected. As soon as a leak or spillage is detected, the transfer is stopped and the issue investigated. Communication is maintained at all times between the operator, jetty operator, operations supervisor, charge hand and operations manager, to make sure that there is a safe and efficient transfer. Flow rates are controlled, for multi tank filling, by the operations supervisor.

The detailed procedure for shipping tanker transfers is contained in SDL's SMS (see Appendix A - SMS procedures for HGV tanker and vessel discharge). The procedures are described in the following manner:

1. Vessel Discharge – Preparation
2. Vessel Discharge – Start
3. Vessel Discharge – Monitoring
4. Vessel Discharge – Completion
5. Vessel Discharge – Stopping

Following the completed transfer, all valves are closed and pipework disconnected, tanks are dipped and sampled following transfer and after the settling period.

Direct piping – Waste UCO transfers from the adjacent Olleco facility will be pumped a short distance over the Northern boundary fence. All pipework and systems are located above ground to allow for constant monitoring and inspection for leaks. SDL will communicate with Olleco to make sure pre acceptance checks are completed and waste transfer information is sent in advance of transfers. Pre-acceptance will include the sampling of the waste by SDL at the Olleco storage tanks prior to transfer. Once pre acceptance and sampling results have been accepted, then the waste will be pumped from Olleco to the SDL facility in sealed pipes and then diverted to the allocated storage tank(s). The control and pumping of the waste will be operated by an

Olleco operative, that will have good clear communication with the SDL operatives to indicate when tanks are full, to avoid overfilling and prevent leaks or spillages.

4.7 WASTE STORAGE

All waste liquids transferred and received at the site will be pumped and piped into various storage tanks located across the facility. SDL has around 100 storage tanks at the facility, of which 30 will be allocated for storing wastes.

Typically, not all of the 30 tanks will be used at the same time, allowing for spare storage capacity. Storage capacity is always checked as part of the pre-acceptance checks, to ensure there is always spare capacity.

All wastes will be received as a single waste stream and kept segregated away from other stored wastes and products. Separation prevents cross contamination and assists future recovery. There will be no mixing of wastes.

At the start of waste operations, the tanks allocated to store waste will be located within areas shown in Table 5 below. As the waste operations business increases over time, further tanks at the facility will be utilised for waste storage.

Table 5: Storage tanks on site and technical specifications

Tank Number	Volume m ³	Location (area/zone)	Heating coils fitted
Tank 301	5,500	Tank pit 3	Yes
Tank 304	5,500	Tank pit 3	Yes
Tank 623	3,196	Tank pit 6	Yes
Tank 624	3,196	Tank pit 6	Yes
Tank 630	485	Tank pit 6	Yes
Tank 614	2,386	Tank pit 6	Yes
Tank 413	813	Tank pit 4	Yes
Tank 415	615	Tank pit 4	Yes
Tank 416	1,256	Tank pit 4	Yes
Tank 417	1,273	Tank pit 4	Yes

All waste storage will be in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2011.

All storage tanks are located within tank pit (TP) bunds. The impermeable bunds are designed to fully contain liquids following a catastrophic tank failure, with 110% containment of the largest tank.

Bunds will be emptied by either gravity outflow through a shut-off valve, which is normally kept closed, or using a pump.

Visual inspections of the bunds will be conducted to look for possible damage and accumulation of rainwater. To maintain the 110% containment capacity, accumulated rainwater will be pumped out immediately, to an oil interceptor and to the effluent treatment plant for treatment before discharging to foul sewer.

All tanks holding wastes will be clearly labelled with their contents and as a non COMAH product.

All tanks holding waste will be free venting to atmosphere, vents will be engineered and fitted at a high level.

All storage tanks holding waste will be newly installed and built to Standard EN 14015 specifications for the design and manufacture of site built, vertical, cylindrical, flat-bottomed, above ground, welded steel tanks for the storage of liquids at ambient temperature and above.

The tanks will be fit for purpose and engineered as follows:

- Compatible with the chemical and physical properties of the liquid to be stored.
- Protected to avoid excessive over and under-pressurisation and operated within limits established to ensure that this is achieved.
- Designed and constructed to withstand impacts on their integrity from normal operations and foreseeable events.
- Designed, constructed and installed to prevent failure due to corrosion or chemical interaction. The corrosion allowance must reflect the anticipated attack from the products stored.

Tank design conditions include the following:

- Maximum design temperature not less than 93°C and minimum 0°C.
- Minimum design pressure 15mbar and minimum vacuum -5mbar.
- Material of construction (for carbon steel tanks) - ASTM 131 Gr B or equivalent.
- Maximum filling speeds are 1 m/s until the filling nozzle of the tank is submerged, and thereafter 3 m/s for low flash and 7 m/s for high flash products.

All contractors, technicians and materials used for construction of tanks, pipes and systems will be verified and checked for technical engineering competence, by SDL's Safety Health and Environment Quality Officer. For larger construction projects, a commissioning checklist will be written, followed and completed. Leak testing is undertaken and safety systems and valves are checked. New storage tanks are hydrostatically tested, during commissioning.

All tanks and transfer systems will have internal control systems fitted consisting of level, temperature and pressure loops. These are routinely calibrated on a six or twelve-month basis. All storage tanks will be fitted with radar level gauges and high level alarms to prevent overfilling. In the event of a power failure, high level alarms would become active, members of the site operations team monitor these systems at all times.

All tanks will be inspected and tested by appropriately trained maintenance operatives; this is as part of a routine maintenance programme. Routine inspections include checks for leaks, cracks, corrosion, general wear, faulty valve or pumps, and system failures. The frequency will be based on manufacturers' recommendations and operating experience. Simple maintenance regimes are carried out by site personnel; more complex activities requiring specialised skills or tools are carried out by contracted maintenance organisations. If any problems or issues arise from any site operations, operatives are required to immediately report it to the site manager. The matter is then prioritised and logged for action by the site's maintenance team.

Details of all maintenance work requested, completed and outstanding are held by the Maintenance Manager / Supervisor. In most cases, the records are held electronically on the company's Computerised Maintenance Management System (CMMS), but paper copies are also retained on site. T

Infrastructure and systems will be designed and installed to the stated standards/ codes shown in Table 6.

Table 6: Design codes

Equipment/structure	Standard/Code
Building, Dead and Imposed loading	BS 6399
Bunds	CIRIA 736
Cables	To various BS EN Standards
Colour code	BS 1710
Concrete construction	BS 8110
Corrosion	NACE
Documentation	ISO 9001
Drainage systems	BS 8301
Erection	National Structural Steelwork Specification and Eurocodes
Instruments	DIN 50049, EN10204 and DIN55350

4.8 BOILER AND HEATING

The facility will include a single natural gas fired boiler with a thermal input of 980KWh. The boiler does not qualify as a medium combustion plant (MCP).

The boiler is in a boiler house, located away from any hazardous storage areas. The boiler generates dry saturated steam at 100psi, which will be used to gently heat heating coils in various storage tanks. This will provide constant gentle heating to wastes with a high viscosity, to assist material transfer. Waste oils, when cooled, become more viscous, difficult to pump and can clog systems. The heating system is an enclosed system, with steam feeding heating coils located within the tanks, this will limit any potential for organic compounds to be released to air. Boiler pressure safety valves are tested in-situ and witnessed by the competent person.

Wastes will be heated to 35°C to 60°C, with the temperature being continuously monitored with an automatic tank gauging system (ATG) to prevent overheating. The waste being heated has low or limited volatility and the heating process will be at low temperatures, limiting any emissions to air or the risk of fire. Heating shall only be undertaken when a storage tank contains liquids requiring warming.

The operation of the 980kwh natural gas fired boiler will be in accordance with the boiler manufacturer's instructions. Start-up and shut down will be made as short as possible, and the stack will be vertical and unimpeded by cowls or caps. There will be no persistent emission of 'dark smoke' as defined in section 3(1) of the Clean Air Act 1993. Further assessment of the boiler's potential impact to air quality and offsite receptors is contained in the Environmental Risk Assessment (ERA) document included in this permit application.

The boiler is located within a local authority Air Quality Management Area (AQMA), for Barking and Dagenham AQMA (London Borough of Barking and Dagenham). The declared pollutants are:

- 16/12/2008, Particulate Matter PM10 - 24-Hour Mean
- 16/12/2008, Nitrogen dioxide NO2 - 1-Hour and Annual Mean

The boiler will be operated in accordance with the SR2022 number 9 standard rules permit limits and conditions. These include the monitoring of emission level values and recording the operating hours per year.

The exhaust stack outlet for the boiler is located at an appropriate location and discharge height of 4.5m, which is approximately 1m above adjacent buildings. Adjacent buildings are approximately 120m from the stack.

It is expected that the boiler will operate for approximately 60% of the time.

Site operatives will be alerted to boiler failure by an audible local alarm and constant CCTV monitoring of the boiler pressure gauge.

The boiler, the exhaust stack, the ancillary hot water piping and steam systems will be regularly inspected and maintained by an approved external contractor.

Records shall be made of the type and quantity of fuel used and the total annual hours of operation. All records shall be retained, for at least six years or the lifetime of the permit, and be made available to the EA.

4.9 SITE CONTAINMENT AND DRAINAGE SYSTEMS

The facility has a three-stage (primary, secondary and tertiary) containment and drainage system.

The systems are designed and engineered to prevent the release of contaminated and potentially polluting liquids into the surface water drainage system and environment.

Primary - All storage tanks are sealed and engineered to the relevant industrial standard, e.g. BS2654, and are made of materials suitable for the intended contents.

Secondary – Sealed impermeable drainage system with bunding, providing 110% containment to the volume of the largest tank. This will provide containment in the event of a catastrophic failure, leak, fire water runoff, protection from a vehicle collision and flooding. In the event of a spillage in the bunded areas, liquids will be pumped to the effluent treatment station via an interceptor.

Tertiary - The facility's operational areas will be engineered to contain potential spillages and to contain fire water in the event of a fire. These areas will be provided by a tertiary containment drainage system. All surface flows will in-turn drain into the road gulley's, to settling tanks, to an oil interceptor and then to surface water drains. In the event of a fire or a serious spillage, the drainage system can be isolated and flows off site

prevented with a stop valve. Fire water or liquids can be pumped from the system into empty storage tanks. These liquids can then be treated in the effluent treatment plant using aeration and a flocculant tank.

Treated effluent will be discharged to foul sewer under a trade effluent discharge consent registered with Thames Water.

The wastewater aeration tank contents are tested regularly and additionally as required by circumstances. The wastewater quality is to be tested against the requirements of the trade effluent discharge consent. After treatment, the wastewater is discharged to the foul sewer, in Chequers lane, which transfers it to the local Wastewater Treatment Works. The facility's drainage plan is provided in Appendix C - Drainage plan.

The site operations team undertake a daily visual inspection of all the drainage systems and any observed abnormalities / defects are reported to the maintenance team to repair.

5. TECHNICAL STANDARDS

The proposed facility's primary activity is the storage of non-hazardous liquid waste, which is subject to the appropriate measures for waste storage at a regulated facility permitted to store, treat or transfer (or both) non-hazardous or inert waste. As such, the key technical standards laid out in the following documents govern the design and operation of the site:

- Appropriate measures for waste storage at a regulated facility permitted to store, treat or transfer (or both) non-hazardous and inert waste.
- The Environmental Permitting (England and Wales) Regulations 2016 (as amended).
- Developing a management system: environmental permits.
- Control and monitor your emissions for an environmental permit.
- Relevant EA Guidance e.g., Environmental Risk Assessments, Site Condition Reports, Odour and noise/vibration Management and Fire Prevention Plans.

Only the following waste activities will be carried out:

- R3: Recycling/ reclamation of organic substances which are not used as solvents.
- R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced).

6. MANAGEMENT TECHNIQUES

6.1 ENVIRONMENTAL MANAGEMENT SYSTEM SUMMARY

SDL already holds and maintains a comprehensive company Environmental Management System (EMS) aligned to operating under the standards and requirements of the COMAH Regulations 2015.

The EMS principally comprises a Major Accident Prevention Policy (MAPP) and Safety Management System (SMS). These provide comprehensive accident and incident control measures, health and safety controls and environmental risk assessment and management.

SDL also has ISO 9001 accreditation.

SDL's EMS is provided in Appendix D - SMS and MAPP. This contains and specifies the following:

- MAPP & SMS aspects (section 4)– aimed at minimising the risk from substances causing a major incident or accident.
- Technical aspects (section 5) – design, construction, operational and maintenance technical standards.
- Environmental Assessment (section 6) – Major accident scenarios, substances, releases, pathway and receptors, prevention and mitigation measures, engineering and infrastructure.

SDL operates under the requirements and conditions of COMAH, so therefore already has in place technically trained managers, who are experienced in operating a compliant facility.

Prior to beginning waste operations two managers will seek to obtain and hold the required waste technical management competency (technically competent manager- TCM) for the operation of a waste facility of this type.

SDL will develop and implement a site-specific EMS that complies with the requirements of Environment Agency guidance - Develop a Management System: environmental permits. The EMS will be reviewed by the General Manager annually and in response to any changes to the site, operations or equipment (including permit variations), or any accident, complaint or breach of the permit.

The company's own ISO 9001, MAPP and SMS will also be updated to include the proposed waste activities at the Dagenham facility.

The environmental risk assessment forms the core of the EMS and is the basis of all associated policies and procedures, which are aimed at the continuous improvement of the environmental performance of the facility.

In summary, the EMS will include the following key elements as required by the EA EMS Guidance¹:

- Site infrastructure plan, showing the locations of the following:
 - buildings, and other main structures
 - storage facilities for wastes
 - items for use in accidents and emergencies, e.g. spill kits
 - entrances and exits that can be used by emergency services
 - Inspection or monitoring points
 - Any discharge points
 - any contaminated land and remediation infrastructure
 - sensitive receptors in the vicinity of the site, including surface and ground water
 - site surfacing and drainage systems, including rainwater attenuation
 - utilities
- A detailed breakdown of site operations and the associated risk management measures for each stage/activity
- Process flow diagram and plant operation
- Cleaning and maintenance regime plan
- Site management training, competence and attendance
- Waste storage plan
- Contingency plans to cover breakdowns, enforced shutdowns and other changes in normal operations, e.g. due to flooding or other extreme weather
- Accident prevention and management plan
- Online security (protection against online security threats)
- Climate change
- Complaints procedures
- Staff roles and responsibilities and competence/training records
- Record keeping
- Compliance audit against environmental permit
- EMS review and updates

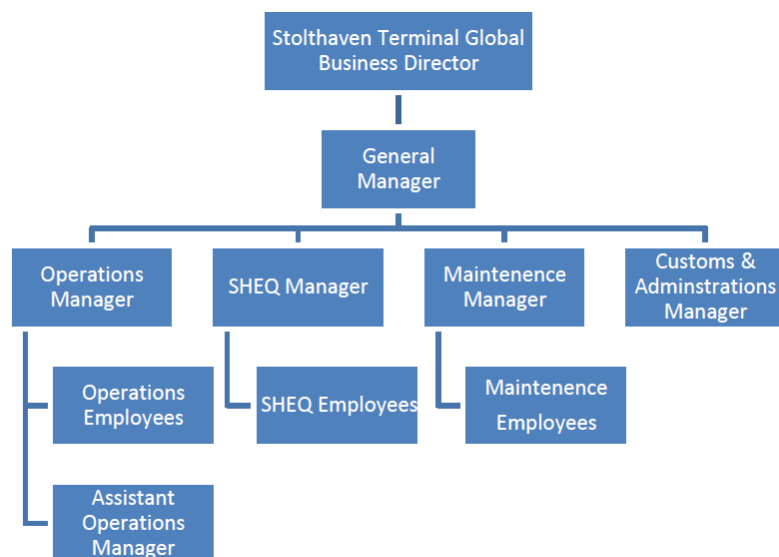
The EMS will be internally audited annually by a qualified Lead Auditor independent of the element being audited. The company's Safety, Health, Environment & Quality department will also carry out an audit once every two years. The results of all audits carried out on these documents will be reviewed at the yearly Management Review Meeting.

6.2 MANAGEMENT STRUCTURE & RESPONSIBILITIES

To ensure the effective implementation and subsequent monitoring of the Health and Safety Policy throughout the company, it is necessary to define the duties and accountabilities of all persons. These are set out in the MAPP section 4.4 Roles and Responsibilities in Appendix C.

¹ <https://www.gov.uk/guidance/develop-a-management-system-environmental-permits>

Figure 5: SDL Dagenham Organisational Chart



Responsibility for the facility’s operation as a whole has been assigned to the General Manager, who controls:

- Daily operation via the Operations Manager.
- Health and safety via the SHEQ Manager.
- Site administration and customs via the customs and administration manager.
- Maintenance via the Maintenance Manager.

The Operations Manager has been assigned with primary responsibility for the facility operation. The QSHE Manager has responsibilities for the Quality, Safety Health and Environmental aspects for the site. The Maintenance Manager is responsible for management of site maintenance and engineering aspects which include the planned maintenance program.

Two site managers will be seeking to obtain an appropriate waste technical competency management qualification as required, from an approved training provider. They will then provide appropriate technically competent management attendance and cover as required under the permit.

All site operatives assist in the day-to-day operation of the facility, they are responsible for the health and safety of themselves and other employees. Their main role is as follows:

- To carry out assigned tasks and duties in a safe manner and in accordance with instructions and company rules, regulations and codes of practice.
- To be aware of any inappropriate unsafe practices or conditions, which could lead to a major accident, or if in any doubt about the safety of any situation, consult their supervisor or manager.
- Take reasonable care for the Health and Safety of their self and of others who may be affected by their acts or omissions. Ensure impact on the environment of the employees’ activities is minimised.
- Be aware of the company procedures and their own role in the event of any emergency situation.

A policy of cross training and multi-skilling allows for personnel to change roles to allow for absences and periods of high activity. Operators may be supported by agency labour, restricted to non-safety critical tasks.

Each team of operators is controlled by a supervisor, a role which has been assigned to site operatives who have gained substantial operating experience with the company and who have demonstrated their ability to take control over individuals whilst carrying out their duties. Supervisors are responsible for co-ordinating operating activities within their teams as well as closely monitoring the performance of those under their control. There is an on-going dialogue between Supervisors and the Operations Manager.

The facility will be manned 24/7 with manning levels as business and operations require. The minimum level for shipping operations is one supervisor, one chargehand and two operators. There are eight multi-discipline maintenance personnel on site. Specialist contractors can be called upon to assist with relevant maintenance work, as required. The maintenance team mainly works day shifts with relevant arrangements in place to cover planned out of hours / emergency works.

6.3 STAFF COMPETENCE AND TRAINING

SDL recognises training as one of the most important pre-conditions for the safe running of the site activities. The site aims to ensure that all employees are in possession of the knowledge, skills and experience necessary to perform their role in accordance with the company's procedures, and in full compliance with all the environmental regulations.

The site has experienced and competent managers in place operating under the current COMAH regulations and conditions. Two site managers shall be trained in appropriate waste technical competency management, which will be renewed and maintained as required.

Newly employed staff receive induction training to make them aware of, and familiarise themselves with site rules, safety rules, the MAPP and a general overview of the site hazards, reporting procedures, use of personal protective clothing and equipment, on-site emergency procedures and first aid arrangements, good personal and industrial-hygiene standards and general good housekeeping requirements. Plant-specific training details the specific hazards of the area where the individual will be working.

Refresher training is undertaken when a performance gap highlights the need, when operational changes warrant it and at a predetermined date according to the nature of the task. SDL has in place a training matrix to provide sufficient detail to visualise the level of competence achieved by each individual plant operative and facilitate the planning process for training.

There are several site employees that have been formally trained as first aiders.

All site employees are provided with training in the use of fire extinguishers, and one Supervisor is trained as a Fire Warden.

All site operatives will be made aware of the environmental permit and management systems and copies will be held on site and made available to all at all times. Operatives will also be provided with appropriate training in emergency and incident response. The level of training is tailored to the individual's needs, and whether they have a specific role within the emergency procedures. This training can take various forms, including classroom sessions, table-top exercises, walk-throughs, and self-study courses. Whilst some of this training is related to specific roles, much is common to everyone, including; awareness of COMAH, Environmental Permit and waste handling requirements, including the MAPP and SMS, and an overview of emergency plans, site systems, alarms, reporting and responses. Training schedules are reviewed annually as part of the Management Review Meeting. All training records are recorded in the employee's personal file and retained on site.

All contractors employed on site for specific maintenance tasks, will be fully inducted and supervised, including being issued relevant information related to site hazards and risks such as expected health and safety requirements to mitigate major accident hazards.

For management and supervisory roles, each department has varying degrees of cover for absences.

6.4 SITE MAINTENANCE

The basic maintenance philosophy is that equipment will be maintained such that it is fit for purpose and such that its effective availability will be maximised.

Items of plant equipment and control systems are assessed to identify those whose failure would cause an unacceptable risk to the environment or health and safety; this assessment is undertaken both at the design stage and at subsequent periodic reviews taking into consideration results of risk assessments, industry best practice, UK regulations and guidance (such as PSSR, LOLER, PUWER, ATEX) etc.

Method Statements support the procedures for individual maintenance tasks. Both routine and planned maintenance are managed through the computerised maintenance management system known as Express Maintenance. All critical systems and infrastructure classified as critical are identified and have routine maintenance.

The day-to-day responsibility for maintenance on the site lies with the Maintenance Manager. Workloads are carefully managed. Work is assessed and only appropriately skilled and qualified operators are tasked with carrying out particular tasks.

Operatives constantly evaluate and review servicing inspections, in order to minimise the risk of plant failure, breakdown or emergency incident.

Apart from breakdowns, all maintenance work is pre planned and scheduled using CMMS.

Corrective maintenance is conducted following a defect report from operatives following daily checks around the plant or routine internal testing. Any fault or defect found with a piece of equipment will result in the generation of an Engineering Work Request. If an unsafe condition exists, immediate attention will be required to correct the fault and / or mitigate the consequence.

6.5 ODOUR MANAGEMENT PLAN

SDL believes that the waste activities will not pose an odour risk. The current COMAH storage operations at the facility (the bulk storage of liquid products) have not generated any odour complaints, and nor have the operations undertaken under the waste exemption. However, SDL has fully considered and implemented measures to mitigate any release of odour and the offsite impact. These measures include that all waste transfers will be conducted from sealed tankers via sealed pipework into engineered storage tanks, reducing the release of odour during the transfer.

An odour management plan has been produced for the proposed waste facility. This clearly identifies all potential sources, any activities causing odour, waste handling and transfer techniques, any offsite sensitive receptors, the wind direction and proactive odour monitoring.

An odour complaints procedure has been produced which explains clear procedures for responding to complaints. This includes report logging, investigation procedures, communicating with the complainant, working with regulators and planning and undertaking remedial works if required. It provides the details of the site's odour release mitigation measures which are to best available techniques (BAT) appropriate measures standards.

SDL's odour management plan is provided in Appendix E - Odour Management Plan. and the odour complaint procedure in Appendix F - Odour complaints procedure.

6.6 RAW MATERIAL CONSUMPTION

On a day-to-day basis, the facility will not be required to use significant quantities of mains water for facility processes. Water is used for steam production, in a closed loop system, where the steam and condensate is recycled. The only water usage will be for general staff welfare and kitchen facilities and the commissioning of new tanks and carrying out leak detection on pipework and systems.

The only other raw material to be utilised by the facility is mains gas which is piped in from the main supplier.

6.7 ENERGY EFFICIENCY AND CONSUMPTION

An energy efficiency plan will be developed which will look at organisational and technical measures aimed at using energy efficiently. This will form part of the facility's EMS.

The site has already implemented the following measures to increase its energy efficiency and consumption:

- Site electrical supply changed to 100% from renewables.
- Reduced the tracing temperature on bitumen pipework, saving 1200MWh & £100,000/annum.
- Removed various hand towel dispensers and installed hand dryers, reducing CO₂e emissions and saving £1,300/annum.
- Variable speed drives on pumps reduced by 10% saving 40MWh and £2,000/annum.
- Area 6 floodlights changed to LED saving 48MWh and £7,000/annum.
- Site nitrogen contract reviewed and changed, saving £15,000/annum.

SDL recognises the importance of continual improvement and is committed to reducing the impact of its business on the environment, by managing energy consumption and reducing waste. SDL has committed to future goals which consist of the following:

- Heat recovery from site compressors for heating water (95% of the compressor waste heat to be captured).
- Aeration of effluent tanks changed from site air to local aeration, possible saving of £20,000/annum.
- TP07 LED lighting upgrade.
- Using solar energy and heat pumps to heat storage tanks.

All energy systems, water usage, and wastewater produced at the facility will be reviewed each year and recorded.

Table 7: Estimated Energy Consumption in 2022

Site	Gas (giga joules)	Electricity (GWh/yr)
SDL Dagenham	20,298	36,274.71

6.8 AVOIDANCE, RECOVERY AND DISPOSAL OF WASTES

SDL recognises the requirement to always consider and implement the principles of the Waste Hierarchy under the Waste Framework Directive. The facility will only accept and store non-hazardous waste, which will only be stored pending their onward transfer for further recycling or recovery. No wastes shall be recovered or disposed of on site.

6.9 ACCIDENT PREVENTION AND EMERGENCY PROTOCOLS

The facility's main aim under COMAH is to control the major accident hazards from dangerous substances handled, stored and used at the Dagenham site, to limit the potential effects to both people and to the environment.

SDL has comprehensive and robust pollution prevention and incident control measures already in place, which are required and implemented under the COMAH Regulations.

The control measures are underpinned and detailed in SDL's Health, Safety and Environmental Management System (HSEMS). The implementation of this policy is aimed at minimising the risk from hazardous substances capable of causing a major accident and to promote continuous improvement.

The facility's MAPP and SMS management systems form part of the HSEMS. These identify and consider all the potential foreseeable accident and incident risks, the potential pathways and offsite receptors and describe the measures and procedures in place to mitigate the risks. The MAPP and SMS are provided in Appendix D - SMS and MAPP.

The aims and principles of the MAPP and SMS are:

- To identify control measures to implement in order to prevent major accidents to people and to the environment.
- To implement mitigation measures to limit the effects of any accidents that do occur.
- The continual improvement in reducing the risk of major accidents.
- To ensure that all relevant information is supplied to SDL's employees, contractors, neighbours, the public and enforcing authorities as appropriate.
- To comply with all the relevant legal requirements.

The implementation of the MAPP is aimed at minimising the risk from hazardous substances capable of causing a major accident; specifically, the MAPP addresses the following areas:

- The roles and responsibilities of persons involved in the management of major hazards.
- Organisation and personnel.
- Hazard identification and risk assessment.
- Operation control.
- Management of change.
- Planning for foreseeable emergencies.
- Process safety improvement measures.
- Measuring performance.
- Audit and review.

SDLs MAPP and SMS section 5 provides the technical aspects across the facility for the design, construction, operation and modifications.

Section 6 provides an environmental risk assessment and provides clear control infrastructure, measures and procedures to mitigate the risks, by identifying the source pathway and receptors at risk. These processes and procedures will also be applied to the handling, transfer and storage of wastes.

It is recognised that the waste storage operations pose a potential risk to the environment (land, air and water) and harm to human health. These consist of the following risk sources:

Vandalism and arson - The site has the benefit of manned occupation 24 hours a day and 7 day a week. A security guard is present on site at all times, to help prevent any unauthorised access, arson and/or vandalism. Additional site security measures include a two-metre metal palisade security fence and CCTV cameras.

Gas leak² from mains gas pipe providing fuel for the boilers (only one boiler will be associated with the waste operations)- all gas pipe work and boilers are stored to the northeast and away from storage areas.

Significant leaks or spillages - In the event of a significant leak or spillage from an infrastructure failure, human error, or vehicle collision, the effluent pit will be used to contain the spillage. The contained liquid would be pumped back into one of the redundant tanks. If a spillage is large enough to overwhelm the effluent pit, then excess liquid will be pumped to an empty storage tank.

Minor spillages - Minor spillages will be dealt with immediately with absorbent materials from spillage kits located in yellow bin strategically placed throughout the terminal and at the Jetty. These contain a variety of absorbent materials, such as absorbent granules, clay drain mat covers, hydrophobic oil absorbent mats and oil booms. Site operatives will be fully trained in spillage kit deployment.

Due to the risks present with transferring liquids from marine vessels docked on the river Thames. Yellow bins containing spillage equipment are located along the river wall, containing clay mats, boom and absorbent granules. All site staff will be trained in the appropriate measures to be carried out in the event of a leak or spill.

Fire - The wastes being received pose a low fire risk and are only flammable at certain high temperatures. Cooking oil has a flashpoint of 400 to 436 degrees Celsius. The heating of the waste will be limited to 35 to 60 degrees, this is constantly monitored by the sites ATG system.

To minimise and control the likelihood of a fire, CCTV and 24-hour manning provides constant detection. Fire extinguishing is provided by permanently fixed firefighting system with water supplied from the river Thames, and various fire hoses are located around the site to provide fire suppression across all areas including the jetty. In the event of a fire, the site has a back-up generator installed to provide power for the site's main firewater pumps in the event of a power cut. This system is tested every week. The newly installed firefighting system to provide cooling water and foam blanketing in Area 1 have 3 pumps for cooling water - a duty and two standby diesel pumps - and 2 pumps for foam respectively. A fire incident action plan has been supplied to the local EA team, this has been accepted and agreed as satisfactory.

A fire appliance from the fire brigade attended site in June 2005 for familiarisation exercises with the fire water ring main. During this exercise an appliance was connected to the main via a hydrant in Area 6 (No FMH19), the furthest point from the jetty fire water pumps to test the ability of the fire water pumps to deliver an adequate supply of water to the site.

Any fire water runoff will be contained within either the secondary bunds or tertiary drainage system, from here if additional capacity is required, liquids can be pumped into empty storage tanks.

Every three months fire exercises take place that are scheduled to ensure all SDL personnel are involved in at least one exercise per year. SDL personnel are externally trained in fire extinguisher training by competent trainers, refresher training is undertaken every three years. Fire extinguishers are located round the site at strategic positions.

Flooding – The site is located within a flood zone. Flooding may result in damage to facility infrastructure or cause the leakage of wastes contaminating flood waters. The risk of an uncontrolled release or spillage from flooding is low. Storage tanks all have secondary bunded walls, tanks are sealed, fixed down and heavy. Storage tanks which are full would not be knocked over by flood water when full.

The facility has implemented the following further measures and infrastructure, to reduce the risk of pollution or harm to human health, but also to prevent an incident/event from escalating into a major accident/incident:

- Operational activities are supervised and are controlled by written procedures.
- Appropriate training of all site contractors and site operatives to ensure all safety operating systems, processes and procedures are operated correctly.
- Comprehensive training of operatives in the reporting and responding to incidents.

² Gas will be mains fed, rather than stored on site.

- Tanks are fitted with high level alarms to prevent overflowing.
- Secondary containment bunds designed to take into account loading on the walls if the largest vessel failed catastrophically.
- A sealed drainage system with secondary and tertiary containment, which also retains fire water runoff.
- Installation of level gauges and instrumentation including pump shut off switches.
- Jetty water drench scheme to control outbreak of fire.
- Manifolds located within bunded areas to contain spills and leaks.
- Contractors work under a permit system and must supply risk assessments and method statements. Work that occurs within a flammable area requires that the atmosphere is tested for the presence of flammable vapours and oxygen content.
- Road tanker driver/operator is in attendance when loading and offloading operations in progress.
- Pressure relief valves are installed where appropriate to control loss of containment.
- Ullage of tanks checked before transfer operations are begun.
- New NFPA (National Fire Protection Association) approved firefighting system with tank drenchers and foam pourers install on Area 1 tanks.
- CCTV cameras have now been installed across the site to further improve operational monitoring and security.
- All incident scenarios considered risk rated and mitigation measures put in place.

6.10 CONTINGENCY PLANNING AND PROCEDURES

All waste received at site is pre-planned prior to being transferred and received by the facility. Pre-waste acceptance procedures include the checking of availability of storage tanks and the capacity to accept the waste loads. Therefore, the likelihood of waste being accepted with no capacity is low. In the unlikely event that there is a mechanical breakdown or serious incident preventing the acceptance of waste then waste will not be accepted and returned to the customer and producer. In the event of a serious incident all incoming waste loads will cease until fully remediated and operational. In the event of a boiler suffering a mechanical breakdown, then a secondary boiler will be utilised as a backup, to ensure the continued production of steam and heat to the tanks and stored wastes.

Routine maintenance inspections and works will be undertaken to help reduce unforeseen mechanical breakdowns.

All waste leaving the site will be sent for further recycling and recovery at other permitted waste facilities. This will include the processing of the wastes into bio diesel and other similar recycling processes.

6.11 DECOMMISSIONING AND CLOSURE

SDL will prepare a site closure plan in line with Environment Agency Guidance in the event of cessation of operations on site. The Site Closure Plan will confirm how the site will be decommissioned to return it to a satisfactory state upon the cessation of activities. Records will be maintained of the location of facilities and infrastructure, as well as the services and sub-surface structures installed during the operating phases of the facility.

De-commissioning will be in compliance with procedures outlined in the Site Closure Plan. During the de-commissioning process, operational records will be reviewed and assessed against the Site Condition Report documented in this permit application. If areas of deterioration during the operation of the site are identified these areas will be remediated as appropriate and the site will be returned to a satisfactory state as defined at the permit application.

7. EMISSIONS AND MONITORING

7.1 POINT SOURCE EMISSIONS TO AIR

The operation of the 980kwh gas fired boiler and the emissions to air will be in accordance with the following conditions:

- Operated in accordance with its manufacturer's instructions.
- The operator must keep periods of start-up and shut down as short as possible.

- There must be no persistent emission of 'dark smoke' as defined in section 3(1) of the Clean Air Act 1993³.
- The stack must be vertical and unimpeded by cowls or caps.

7.2 POINT SOURCE EMISSIONS TO SURFACE WATER

There will be no point source emissions to surface water. Only clean surface water from around the weighbridge is permitted to be discharged directly offsite to the mains surface water drainage network. No waste transfer, treatment, or storage activities will occur in this area.

Clean surface water runoff and other uncontaminated external yard areas will be captured by the tertiary drainage system. These will flow into an oil interceptor, then into the surface water drainage system off site. This system has the benefit of a number of isolation valves, which allow for the system to be closed off, in case of significant spillage or for fire water retention. The drainage layout and general arrangements are shown in Appendix C - Drainage plan.

7.3 POINT SOURCE EMISSIONS TO SEWER

Wastewater from the facility's tertiary drainage system flows to road gully drains, to an oil interceptor, then an effluent treatment plant and finally an aeration tank. The wastewater aeration tank discharge is tested regularly. The wastewater quality is to be tested against the requirements of the Consent to the Discharge of Trade Effluent.

After treatment the wastewater is discharged to a 375mm main foul sewer along Chequers Lane. This transfers it to the Thames Water Sewerage Treatment Works. The wastewater discharged into the sewer from the effluent treatment plant is controlled under the confines of the Thames Water Trade Effluent Consent issued and controlled by Thames Water. The discharge consent has a number of limits and conditions, these can be found detailed in Appendix G - Thames water trade effluent discharge consent TRIV0A14.

Foul sewerage generated at the site is discharged directly into the foul sewer that runs across the terminal and connects to the foul sewer in Chequers lane.

7.4 POINT SOURCE EMISSIONS TO GROUNDWATER

There will be no point source emissions to groundwater from the facility.

7.5 POINT SOURCE EMISSIONS TO LAND

There will be no point source emissions to land.

7.6 FUGITIVE EMISSIONS

The facility's processes and procedures will be implemented, and its infrastructure constructed, to prevent fugitive emissions.

Potential fugitive emissions, such as those to air or surface water, are likely to be only due to accidents or incidents.

The site's secondary and tertiary drainage system have been designed to capture and contain any firewater, spillages or serious leaks.

Good housekeeping practices on site, constant monitoring, regular operative training and technical competent management will ensure that any leaks or spillages are reported, contained and cleared up immediately. Other than a small extent of pipework running under a road, all pipework is located above ground so that leaks are easier to detect and fix.

The only wastes accepted at the site are waste oils, which do not create litter. Dust emissions from the facility will be kept to a minimum by regular road sweeping and speed limits for vehicles entering and leaving the facility.

A monitoring system on the boiler would alert operatives to any natural gas leaks.

³ <http://www.legislation.gov.uk/ukpga/1993/11/section/3>

Yellow bins containing spillage equipment will be located close to storage area(s) and/or delivery points. The actions to be taken in the event of a spillage will be set out in the facility's EMS.

Storage tanks are vented directly to atmosphere via a pipe located at the top of the tank. During filling, tanks will displace air from them and vent the air to atmosphere. If the facility receives an odour complaint, then the odour complaint procedure will be followed. Remedial action will be immediately taken if the odour is found to be from the facility. A review will take place to see if a future emission can be avoided. SDL's odour management plan is detailed in Appendix E - Odour Management Plan. and Appendix F - Odour complaints procedure.

To assist in the prevention of fugitive emissions from the facility, the following measures will be employed and detailed in the site's MAPP and SMS for regular inspection and maintenance.

- All tanks, pipes, valves, seals and gaskets will be regularly inspected during transfer to make sure no leaks or emissions.
- All deliveries of waste from HGV road tankers will be supervised at all times.
- All tanks, pipes, valves, seals and gaskets will have routine maintenance carried out.
- Any faults, corrosion, cracks or failure shall be reported and logged immediately, and remedial maintenance work carried out to rectify the issue.

7.7 COMPLAINTS AND POTENTIAL PERMIT BREACHES

Any potential reports and complaints about fugitive emissions or potential off-site emissions such as noise, pests, vermin, dust, odour or vibration, will be recorded, investigated, and appropriate remediation actions implemented as necessary.

All staff are trained to identify and report such incidents when they occur, as detailed in the MAPP and SMS. In the unlikely event of an offsite emission and a complaint, the site staff will record the complaint and undertake a full investigation into the source. Any emissions will be assessed and appropriate measure put in place to rectify and prevent future emissions.

The Environment Agency shall be notified without delay following the detection of:

- (a) any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution;
- (b) the breach of a limit specified in the permit; or
- (c) any significant adverse environmental effects.

7.8 ODOUR

Regulated activities at the installation will be managed in accordance with a site-specific odour management plan included with this application. See Appendix E - Odour Management Plan.

7.9 NOISE AND VIBRATION

The following noise and vibration control measures are in place:

- The operator has a low noise purchasing policy for buying new equipment.
- The operator has a policy to carry out regular noise risk assessments and to take action to reduce the risks.

A noise assessment undertaken concluded that site staff are unlikely to have noise exposures above the lower and upper exposure action values. Therefore, it was concluded that there would be no significant adverse impact to sensitive receptors. In the event of a complaint, the complaints procedure will be followed.

8. APPENDICES

- Appendix A - SMS procedures for HGV tanker and vessel discharge.
- Appendix B - Waste Storage Tank site plan
- Appendix C - Drainage plan.
- Appendix D - SMS and MAPP.
- Appendix E - Odour Management Plan.
- Appendix F - Odour complaints procedure.
- Appendix G - Thames water trade effluent discharge consent TRIV0A14

Appendix A - SMS procedures for HGV tanker and vessel discharge.

Appendix B - Waste Storage Tank site plan

Appendix C - Drainage plan

Appendix D - SMS and MAPP

Appendix E - Odour Management Plan

Appendix F - Odour complaints procedure

Appendix G - Thames water trade effluent discharge consent
TRIV0A14



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