SCOTTISH ENVIRONMENT PROTECTION AGENCY

Pollution Prevention and Control Act 1999

Pollution Prevention and Control (Scotland) Regulations 2000 ("the Regulations")

PERMIT TO OPERATE A 'PART A' INSTALLATION

Permit Number: PPC/A/1013495

Operator: Shell UK Limited

The Scottish Environment Protection Agency ("SEPA"), in accordance with Regulation 7 of the Regulations, hereby grants a permit to Shell UK Limited, company registration number 140141, having its registered office at Shell Centre, York Road, London, SE1 7NA ("the Operator") to operate part of an installation, more particularly described in Schedule 1 of this permit, on a site at Shell UK Limited, Mossmorran Fractionation Plant, more particularly described in said Schedule 1, subject to the requirements of the Regulations and to the conditions contained in the Schedules to this Permit.

Signed..[redacted]..... Date: 29 October 2007
Authoris[redacted] the
Scottish Environment Protection Agency

Right of Appeal
Under Regulation 22 of the Regulations you are entitled to appeal to the Scottish Ministers against any condition or conditions of this Permit within six months of the date of this Permit, except where SEPA has granted this Permit in implementation of a direction to SEPA of the Scottish Ministers. The bringing of an appeal will not have the effect of suspending the operation of the said condition or conditions. The procedures for the making of an appeal are set out in Schedule 8 of the Regulations.

CONTENTS

INTERPRETATION OF TERMS

For the purposes of this Permit, and unless the context requires otherwise, the following definitions shall apply:

"Authorised Person" means a person who is authorised in writing under Section 108 of the Environment Act 1995 to carry out duties on behalf of SEPA;

"Climate Change Agreement" has the same meaning as in Section 46 of the Finance Act 2000;

"emission" has the same meaning as in the Regulations;

"incident" means any of the following situations:

- Where an accident occurs which has caused or may have the potential to cause pollution;
- Where any malfunction, breakdown or failure of plant or techniques is detected which has caused or may have the potential to cause pollution;
- Where any substance, vibration, heat or noise specified in any Condition of this Permit is detected in an emission from a source not authorised by a Condition of this Permit and in a quantity which may cause pollution;
- Where an emission of any pollutant not authorised to be released under any Condition of this Permit is detected;
- Where an emission of any substance, vibration, heat or noise is detected that has exceeded, or is likely to exceed, or has caused, or is likely to cause to be exceeded any limit on emissions specified in a Condition of this Permit.

"Location Plan" means the plan attached to Schedule 1 of this Permit;

"the Permitted Activities" are defined in Schedule 1 of this Permit;

"the Permitted Installation" is defined in Schedule 1 of this Permit and includes references to parts of the Permitted Installation;

"pollutant" and "pollution" have the same meaning as in the Regulations;

"SEPA" means the Scottish Environment Protection Agency;

"the Site Boundary" is defined in Schedule 1 of this Permit;

"Site Plan" means the plan attached at Schedule 1;

"the Regulations" means The Pollution Prevention and Control (Scotland) Regulations 2000;

"water environment" has the same meaning as in the Water Environment and Water Services (Scotland) Act 2003 that is all surface water, groundwater and wetlands; and "surface water", "groundwater" and "wetlands" shall have the same meanings as in the Act.

"NGL" means Natural Gas Liquids;

"HP" means high pressure;

"LP" means low pressure;

"MEG" means Mono Ethylene Glycol;

"MW" means megawatts;

"kW" means kilowatts;

"Flaring" means any emission of hydrocarbon, originating from the "permitted installation", from emission point numbers A04, A05, A06 and A07, when the flare is lit, as described in Table 4.1;

"Major" used with reference to flaring means any emission of hydrocarbon equal to or greater than 20 tonnes;

Any reference within this Permit to reports or notifications to be made to SEPA in writing shall be read as to include by fax and by email at the fax number and email address respectively specified in the explanatory notes attached to this Permit;

Any reference to a numbered Condition, group of Conditions, Schedule, Table, Appendix, Figure or Paragraph is a reference to the condition, group of conditions, schedule, table, appendix, figure or paragraph bearing that number in this licence;

Except where specified otherwise in this Permit:

- "day" means any period of 24 consecutive hours,
- "week" means any period of 7 consecutive days,
- "month" means a calendar month,
- "quarter" means a calendar quarter
- "year" means any period of 12 consecutive months;

and any derived words (e.g. "monthly", "quarterly") shall be interpreted accordingly;

Except where specified otherwise in this Permit, any reference to an enactment or statutory instrument includes a reference to it as amended (whether before or after the date of this Permit) and to any other enactment, which may, after the date of this Permit, directly or indirectly replace it, with or without amendment.

1 THE PERMITTED INSTALLATION

1.1 Description of Permitted Installation

1.1.1 The installation ("the Installation") is the stationary technical unit specified in Paragraph 1.1.4 ("the Stationary Technical Unit"), where the activities specified in Paragraph 1.1.3 are carried out ("the Activities"), together with the directly associated activities specified in Paragraph 1.1.5 ("the Directly Associated Activities"). The site of the Installation is delineated in red on the Site Plan ("the Site Boundary").

1.1.2 The general location of the Installation is as shown on the Location Plan.

1.1.3 The Activities carried out at the Stationary Technical Unit are: -

1.1.3.1 The burning of gaseous fuels in six combustion appliances with an aggregated net thermal input of 116 MW being an activity falling within paragraph (a) of Part A of Section 1.1 of Schedule 1 of the Regulations described as the burning of any fuel in a combustion appliance with a net rated thermal input of 50 megawatts or more.

1.1.3.2 The burning of gaseous and liquid fuels in eleven combustion appliances with an aggregated net thermal input of approximately 750 MW being an activity falling within paragraph (a) of Part A of Section 1.1 of Schedule 1 of the Regulations described as the burning of any fuel in a combustion appliance with a net rated thermal input of 50 megawatts or more.

1.1.3.3 The processing of natural gas liquids into Ethane (plus lighter components), Propane, Butane and Pentane (plus heavier components), being an activity falling within paragraph (i) of Part A of Section 1.2 of Schedule 1 of the Regulations described as the purifying or refining of the products of an activity mentioned in paragraph (a) or its conversion into a different product.

1.1.3.4 The production of ethylene through the cracking of ethane and propane, being an activity falling within paragraph (e) of Part A of Section 1.2 of Schedule 1 of the Regulations described as the purifying or refining of any product of any of the activities described in paragraphs (a), (b), (c) or (d) of this section or converting it into a different product.

1.1.4 The Stationary Technical Unit comprises the following units: -

1.1.4.1 Three process furnaces (1-F5501, 2-F5501 & 3-F5501), fired by fuel gas each with a net rated thermal input of 48.8 MW;

1.1.4.2 Three molecular sieve regeneration heaters (1-F1301, 2-F1301 & 3-F1301), fired by fuel gas each with a net rated thermal input of 1.29 MW;

1.1.4.3 Facilities for the reception of Natural Gas Liquids (NGL) via a 20" pipeline from the Shell St. Fergus Gas Plant, more particularly described below as having or using:

(a) valves to provide isolation of the 20" NGL pipeline from the Shell St. Fergus Gas Plant from the Stationary Technical Unit;

(b) a connection to the flare system to provide emergency depressurisation of the pipeline (described in Paragraph 1.1.4.7);

(c) a pig receiver serving the St. Fergus Gas Plant pipeline system to allow pipeline cleaning and inspection equipment (known as a "pig") to be retrieved;

(d) an arrangement of valves and booster pumps to control the pressure of the incoming feed to the Stationary Technical Unit;

(e) A metering system and interconnecting pipe work, to facilitate fiscal metering of NGL to the Stationary Technical Unit;

1.1.4.4 Facilities for the fractionation of the received NGL into ethane (plus lighter components), propane, butane and pentane (plus heavier components) employing 3 modules (1, 2 & 3), each module consisting of:

(a) Facilities for the separation of ethane (plus lighter components) more particularly described below as having or using:

(i) an expansion valve arrangement to reduce the pressure and allow the light ends to flash off;

(ii) a de-ethaniser fractionation column employing a combination of liquid sealed trays and/or structured packing in order to separate out heavier components into the liquid stream and concentrate ethane and lighter components in the gas stream;

(iii) a de-ethaniser condenser arrangement including heat exchanger unit employing propane as refrigerant and separation vessels to promote condensation and aid separation of ethane for use in the fuel gas system or for export;

(iv) a heat exchange unit to avoid ethane condensation in the fuel gas system or export lines;

(v) a de-ethaniser reboiler arrangement employing hot oil as a heating medium to promote volatilisation of any remaining light ends;

(vi) a connection to the HP flare system to provide both controlled and emergency depressurisation of the column (described in Paragraph 1.1.4.7);

(b) Facilities for the separation of propane more particularly described below as having or using:

(i) an expansion valve arrangement to reduce the pressure and allow the light ends to flash off;

(ii) a de-propaniser fractionation column employing a combination of liquid sealed trays and/or structured packing in order to separate out heavier components into the liquid stream and concentrate propane and lighter components in the gas stream;

(iii) a de-propaniser condenser arrangement including an air cooled heat exchanger and separation vessels to promote condensation and aid separation of propane for use in the fuel gas system or for further processing;

(iv) an air cooled heat exchange unit to subcool the propane product in order to minimise the load on the refrigeration cycle;

(v) a de-propaniser reboiler arrangement employing hot oil as a heating medium to promote volatilisation of any remaining light ends;

(vi) a connection to the HP flare system to provide both controlled and emergency depressurisation of the column (described in Paragraph 1.1.4.7).

(c) Facilities for the separation of butane and pentane (plus heavier components) more particularly described below as having or using:

(i) an expansion valve arrangement to reduce the pressure and allow the light ends to flash off;

(ii) a de-butaniser fractionation column employing liquid sealed trays in order to separate out pentane and heavier components into the liquid stream and concentrate butane and lighter components in the gas stream;

(iii) a de-butaniser condenser arrangement including an air cooled heat exchanger and separation vessels to promote condensation and aid separation of butane for storage and export;

(iv) an air cooled heat exchange unit to subcool butane product in order to minimise the load on the refrigeration cycle;

(v) a de-butaniser reboiler arrangement employing hot oil as a heating medium to promote volatilisation of any remaining light ends;

(vi) an air cooled heat exchange unit to subcool pentane (and heavier components) product prior to storage or associated transfer lines;

(vii) a connection to the HP flare system to provide both controlled and emergency depressurisation of the column (described in Paragraph 1.1.4.7);

(d) Facilities for the purification of propane (removal of methanol) separated out in the de-propaniser fractionation column (described in Paragraph 1.1.4.4 (b) (ii)), more particularly described below as having or using:

(i) a facility to allow the bypass of propane to the refrigeration plant (as described in Paragraph 1.1.4.4 (e));

(ii) two molecular sieves arranged in parallel to allow the removal of methanol through liquid phase adsorption;

(iii) an in line filter to remove any entrained mole sieve dust from the dry gas stream;

(iv) a propane purification unit regeneration facility to remove methanol from the molecular sieve adsorption units employing a slipstream of export ethane as a carrier gas that is first heated and is returned to the ethane export stream or the fuel distribution system;

(v) a direct gas fired natural draft regeneration heater with radiant and convection cells (described in Paragraph 1.1.4.2);

(vi) a separation vessel to separate liquids and gases within the re circulated carrier gas;

(vii) a facility to allow the use of propane as a carrier gas as described in Paragraph 1.1.4.4 (iv) above;

(e) Facilities for the refrigeration of propane and butane products, to their required storage temperatures of -44°C and -4°C respectively, more particularly described below:

(i) the chilling of butane product to -4°C in a heat exchange unit employing propane as refrigerant;

(ii) the chilling and condensation of butane boil off to -4°C in a heat exchange unit employing propane as refrigerant;

(iii) the chilling and condensation of propane boil off to -44°C by passing through two heat exchange units, arranged in series, each employing propane as refrigerant;

(iv) the chilling of propane boil off to -44°C in a heat exchange unit employing propane as refrigerant;

(v) a facility to allow the single stage compression of propane for use as a refrigerant employing the second stage of a two stage compressor, an arrangement of air cooled heat exchange units and series of knock out drums;

(vi) a facility to allow the second stage compression of propane for use as a refrigerant employing the first stage of a two stage compressor, an arrangement of air cooled heat exchange units and series of knock out drums;

(vii) a connection to the fuel distribution system to allow the removal of non condensables;

(viii) a connection to the HP flare system (described in Paragraph 1.1.4.7) to provide both controlled and emergency depressurisation;

1.1.4.5 Facilities for the export of ethane and propane to ExxonMobil Fife Ethylene Plant ethylene cracker in independent systems, more particularly described below as having or using:

(a) valves to provide isolation of the pipeline connecting the Stationary Technical Unit to ExxonMobil FEP ethylene cracker;

(b) a connection to the HP flare system (described in Paragraph 1.1.4.7) to provide both controlled and emergency depressurisation;

(c) a metering system and interconnecting pipe work, to facilitate fiscal metering of ethane from the stationary Technical Unit;

(d) a metering system and interconnecting pipe work, to facilitate fiscal metering of propane from the stationary Technical Unit;

1.1.4.6 Facilities for the export of ethane to Ineos at Grangemouth, more particularly described below as having or using:

(a) valves to provide isolation of the pipeline connecting the Stationary Technical Unit to Ineos;

(b) a metering system and interconnecting pipe work, to facilitate fiscal metering of ethane from the stationary Technical Unit;

1.1.4.7 A flare system to provide emergency depressurisation protection, more particularly described below as having or using:

(a) Ground Flares, consisting of

(i) two identical flares each with a maximum flaring capacity of 50 tonnes per hour, dependant on the flare gas composition;

(ii) the flare employs fuel gas for pilot lights, glycol filled seal drums, nitrogen gas for continuous purging and steam injection for smoke suppression;

(b) An HP Elevated Flare, consisting of

(i) an 80 metre tall flare stack;

(ii) the flare has a total burning capacity of 536 tonnes per hour;

(iii) the flare employs fuel gas for pilot lights, glycol filled seal drums, molecular seals nitrogen gas or fuel gas for continuous purging and steam injection for smoke suppression;

(c) A LP Elevated Flare, consisting of

(i) an80 meter tall flare stack ;

(ii) the flare has a total burning capacity of 60.5 tonnes per hour;

(iii) the flare employs fuel gas for pilot lights, nitrogen gas or fuel gas for continuous purging and steam injection for smoke suppression;

1.1.4.8 A facility for the production of ethylene through the cracking of ethane and propane, more particularly described below as having or using:

(a) ethane and propane reception facilities;

(b) seven liquid and gas fired process furnaces for the cracking of ethane and propane fitted with steam recovery;

(c) a process train for the purification and separation of ethylene;

(d) ethylene and other product export facilities;

(e) one gas fired turbine;

(f) three steam raising boilers fired on gaseous and liquid fuels;

(g) a flare system to provide emergency depressurisation protection;

1.1.5 The following Directly Associated Activities are carried out on the Site: -

1.1.5.1 Facilities for the storage of propane, more particularly described below as having or using:

(a) storage of propane in two bunded, double containment, insulated tanks each with a storage capacity of approximately 50,000 m^3 and fitted with level alarms;

(b) a re circulation arrangement whereby vaporised propane is compressed, condensed and refrigerated (as described in Paragraph 1.1.4.4 (e)) before being returned to the storage vessel;

(c) frost protection of the concrete base through the use of a fitted electrical heating system;

(d) an arrangement of associated delivery pipe work and pumps for the export of propane to Braefoot Bay Terminal;

(e) a connection to the LP flare system (described in Paragraph 1.1.4.7 (c)) to provide both controlled and emergency depressurisation;

1.1.5.2 Facilities for the storage of butane, more particularly described below:

(a) storage of butane in two bunded, double containment, insulated tanks each with a storage capacity of approximately 35,000 m^3 and fitted with level alarms;

(b) a re circulation arrangement whereby vaporised butane is compressed, condensed and refrigerated (as described in Paragraph 1.1.4.4 (e)) before being returned to the storage vessel;

(c) frost protection of the concrete base through the use of a fitted electrical heating system;

(d) an arrangement of associated delivery pipe work and pumps Facilities for the export of propane to Braefoot Bay Terminal;

(e) a connection to the LP flare system (described in Paragraph 1.1.4.7 (c)) to provide both controlled and emergency depressurisation;

1.1.5.3 Facilities for the storage of gasoline, more particularly described below;

(a) storage of gasoline in two bunded, floating roof tanks each with a storage capacity of approximately 30,000 m^3 and fitted with level alarms;

(b) an arrangement of associated delivery pipe work and pumps facilities for the export of gasoline to Braefoot Bay Terminal;

(c) valves to provide isolation of the export pipeline to Braefoot Bay Terminal from the Stationary Technical Unit;

1.1.5.4 Facilities for the export of propane and butane to the adjacent road tanker loading facility located to the North of the Installation, more particularly described below as having or using;

(a) valves to provide isolation of the Stationary Technical Unit from the tanker loading facility;

(b) a metering system and interconnecting pipe work, to facilitate fiscal metering of propane and butane from the Stationary Technical Unit;

1.1.5.5 Facilities for the collection and distribution of the following components for use as fuel gas throughout the Permitted Installation;

(a) methane;
(b) methane;
(c) propane;

1.1.5.6 A facility for the production of Instrument Air, where atmospheric air is compressed by one of three compressors K5401 A/B/C before being passed through one of two wet air receivers before being passed through drying units to remove any free or residual water;

1.1.5.7 A hot oil system with a separate hot oil loop serving each of the 3 modules (Modules 1, 2 & 3), more particularly described below:

(a) a gas fired furnace F-5501 (described in paragraph 1.1.4.1) with a rated thermal input of 48.8MW, fitted with radiant tubes and a convective heat exchanger in the exhaust gas to provide heat to the thermal fluid;

(b) pipework to circulate the thermal fluid;

(c) a hot oil surge vessel to provide for oil expansion;

(d) in the event of a shutdown of a Module, the storage of hot oil in a tank with a storage capacity of 105m^3;

1.1.5.8 A facility for the supply of nitrogen gas to the Stationary Technical Unit, more particularly described below as having or using:

(a) cryogenic storage of liquid nitrogen, consisting of;

(i) storage of nitrogen in a tank with a storage capacity of 9.28m^3;

(ii) two associated heaters employed for vaporisation of the liquid nitrogen and heating the gas stream when required;

(b) a pressure swing absorber employing a set of carbon molecular sieves to preferentially absorb oxygen to produce a nitrogen rich stream, which is employed primarily for the purging of vent and flare stacks (described in Paragraph 1.4.4.7);

1.1.5.9 A Low Pressure drain system where hydrocarbon liquids from the propane and butane storage tanks are collected and routed for further separation with light ends vaporised and sent to the elevated flare (described in Paragraph 1.4.4.7) and the remaining viscous liquid phase removed;

1.1.5.10 A High Pressure drain system where hydrocarbon liquids are collected and routed for further separation with light ends vaporised and sent to the ground or elevated flare (described in Paragraph 1.4.4.7) and viscous phase removed;

1.1.5.11 Storage

(a) storage of white diesel in a bunded tank with a storage capacity of 29m^3;

(b) storage of raw materials;

(c) storage of wastes prior to disposal from site;

1.1.5.12 Fire water system consisting of:

(a) A fire and gas detection and alarm system;

(b) a 35,000 m^3 firewater pond;

(c) two electrical and two diesel driven fire water pumps as well as a fire water ring main supplying hydrants, sprinklers and deluge systems;

(d) storage of diesel in two bunded day tanks with a storage capacity of 8.65m^3;

(e) storage of fire fighting foam stored in a bunded area in containers with an approximate on site capacity of 45m^3;

1.1.5.13 Emergency Power Generation consisting of:

(a) three diesel fuelled generators each capable of supplying 600kW, 250kW & 53kW of electricity, sufficient for supplying the essential electrical requirements of the Installation;

(b) storage of red diesel in 3 bunded day tanks each with a storage capacity of $9.2m^3$, $0.4m^3$ and $1.5m^3$

1.1.5.14 A facility for the collection and treatment of all waste water including produced water, more particularly described below as having or using:

(a) a Continually Oil Contaminated (COC) drainage system, collecting surface water from the process areas and directing this to a Tilted Plate Interceptor (TPI). The water from the TPI is then mixed together with water from the AOC (described below), passed to the Y shaped oil trap system and then fire water pond. An overflow exists from the fire water pond to the Dronachy Burn. Oil from the TPI is passed to the an oil sump before being removed from site;

(b) an Accidentally Oil Contaminated (AOC) drainage system collecting surface water from non process areas or those unlikely to be contaminated other than due to an accident and directing this to a mixing point (mixed with water from the COC, described above), the Y shaped oil trap system and then fire water pond. An overflow exists from the fire water pond to the Dronachy Burn;

(c) segregated sumps collecting surface water from non process areas or those unlikely to be contaminated other than due to an accident which when full which are tested and where within discharge consents are transferred to the AOC upstream of the Y shaped oil trap system.

1.1.5.15 Directly Associated Activities associated with the production of ethylene through the cracking of ethane and propane, more particularly described below as having or using:

(a) a system for the oxidation and neutralisation of spent caustic;

(b) systems for the supply of utilities including;

(i) collection and distribution of fuel;
(ii) nitrogen;
(iii) instrument Air;
(iv) steam;
(v) condensate;

(c) storage of raw materials and wastes;

(d) a system for the detection and suppression of fires;

(e) a system for the collection and treatment of all waste water;

1.1.6 The adjacent Shell Gas tanker loading facility for the loading and odorising of propane and butane, located to the North of the installation, does not form part of the installation.

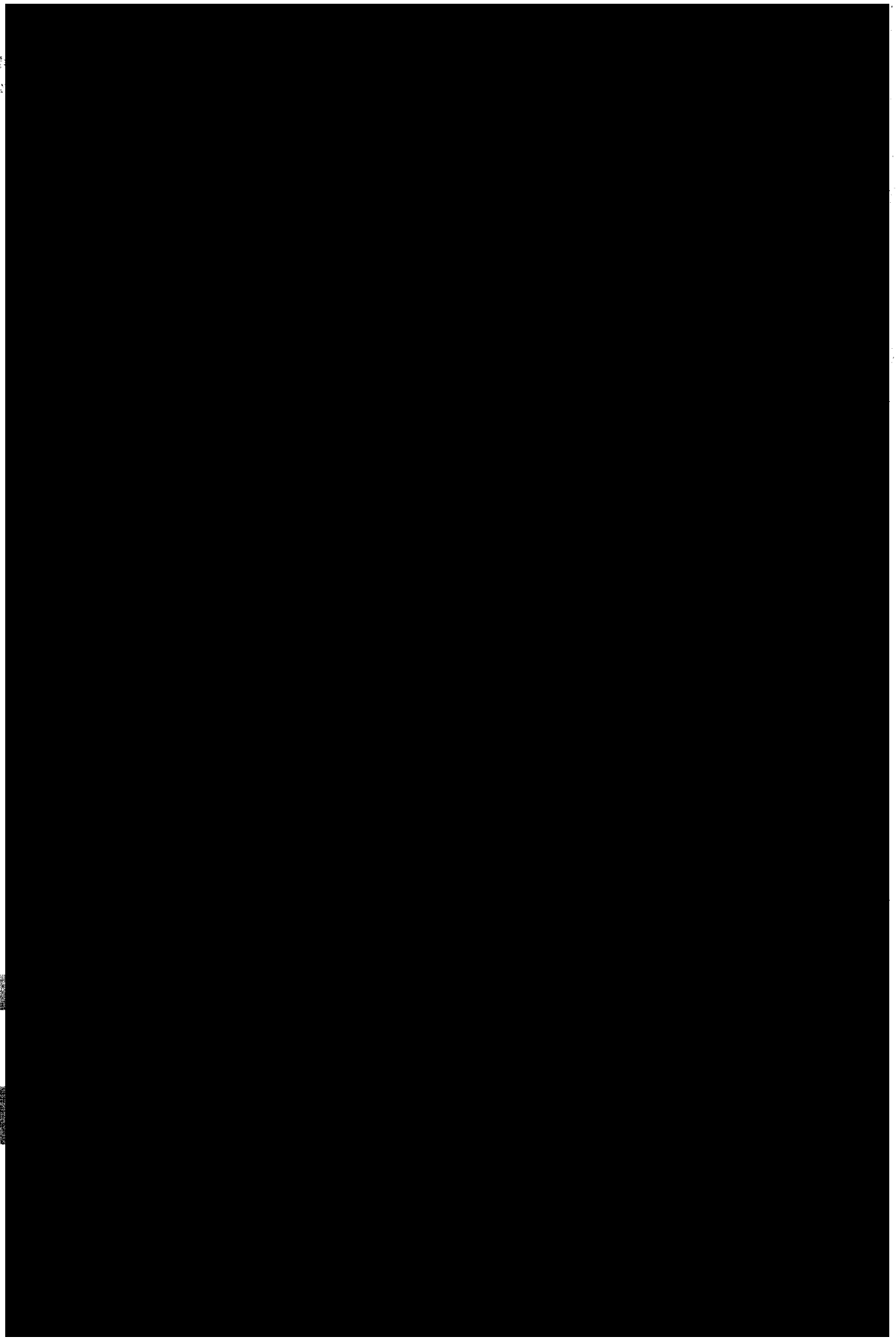
1.2 Description of the Permitted Installation

1.2.1 The permitted installation to which this Permit applies ("the Permitted Installation") is:-

1.2.1.1 The part of the Installation which comprises the Stationary Technical Unit described in Paragraphs 1.1.4.1 to 1.1.4.7, where the activities described in Paragraphs 1.1.3.1 and 1.1.3.3 are carried out, together with the Directory Associated Activities described in Paragraphs 1.1.5.1 to 1.1.5.14. The location of the Permitted Installation on the Site is delineated in blue on the Site Plan.

1.2.2 For the purposes of this Permit, the Activities described in Paragraph 1.3.1.1 and 1.1.3.3 and the Directly Associated Activities described in Paragraph 1.1.5.1 to 1.1.5.14 shall be known together as the Permitted Activities.

1.3 Site Plan



1.4 Location Plan

2 GENERAL CONDITIONS

2.1 Administration

2.1.1 The Operator shall have an appropriate person (and deputy) as the primary point of contact with SEPA and shall notify SEPA in writing of the name of the appointed person (and deputy) within 4 weeks of the date of this Permit.

2.1.2 In the event of a different person being appointed to act as primary point of contact (or deputy) the Operator shall notify SEPA in writing of the name of the appointed person or deputy without delay.

2.1.3 A copy of this Permit shall be kept at the Permitted Installation and shall be made readily accessible for examination by all staff.

2.1.4 Any systems or procedures used by the Operator to demonstrate compliance with a Condition of this Permit shall be recorded.

2.2 Records

2.2.1 All records made in compliance with this Permit shall be kept in a systematic manner.

2.2.2 Unless otherwise specified in a Condition of this Permit, every record made in compliance with a Condition of this Permit shall be preserved for not less than 5 years from the date of its being made. Every such record shall be kept at the Permitted Installation for not less than one year from the date of its being made and thereafter preserved at a location, previously notified to SEPA in writing, if that location is not the Permitted Installation.

2.2.3 All records shall be legible, and any amendment made to any record made in compliance with a Condition of this Permit shall be made in such a way as to leave the original entry clear and legible. The reason for each amendment shall be explained in the said record.

2.2.4 Without prejudice to Condition 2.2.2, all operator's records relevant to the operation or maintenance of the Permitted Installation shall be kept at the Permitted Installation for not less than one year from the end of the period to which they apply.

2.3 Reporting

2.3.1 Where any Condition of this Permit requires information to be reported, a report shall be forwarded in writing in duplicate to SEPA at the address specified in the explanatory notes attached to this Permit, by the date(s) or within the period or at the frequency specified in Table 2.1 and, where appropriate, the first report shall be due on the date specified in that Table. All such reports shall include the Permit number and the name of the Operator.

2.3.2 Where the Permitted Installation has not operated for the duration of any reporting period specified in Table 2.1, the Operator shall provide written notification to SEPA. This shall confirm that no reports have been made in terms of Condition 2.3.1 because the Permitted Installation has not operated

during the said period. Notifications shall be submitted within one month of the end of the reporting period concerned.

2.3.3 All notifications required by any Condition of this Permit shall be made to SEPA in the manner specified in that Condition to the address specified in the explanatory notes attached to this Permit by the date(s) or within the period or at the frequency specified in Table 2.1 and, where appropriate, the first notification shall be due on the date specified in that Table. All such notifications shall include the Permit number and name of the Operator.

2.4 Incidents

2.4.1 In the event of an incident, the Operator shall take all necessary measures to prevent, or where that is not practicable to reduce, emissions from the Permitted Installation. All necessary measures to limit the consequences for the environment of any emissions from the Permitted Installation shall be taken, so far as reasonably practicable.

2.4.2 In the event of an incident, the Operator shall notify SEPA by telephone without delay. This notification shall include as far as practicable the information specified in Condition 2.4.3.

2.4.3 The Operator shall confirm any incident to SEPA in writing by first class post or fax by the next working day after identification of the incident. This confirmation shall include: the time and duration of the incident, the receiving environmental medium or media where there has been any emission as a result of the incident, an initial estimate of the quantity and composition of any emission, the measures taken to prevent or minimise any emission or further emission and a preliminary assessment of the cause of the incident.

2.4.4 Any incident notified to SEPA shall be investigated by the Operator, and a report of the investigation sent to SEPA. The report shall detail, as a minimum, the circumstances of the incident, an assessment of any harm to the environment and the steps taken by the Operator to bring the incident to an end. The report shall also set out proposals for remediation, where necessary, and for preventing a repetition of the incident.

2.4.5 By the 31st March 2008 the Operator shall prepare, implement and maintain an "Incident Prevention and Mitigation Plan".

2.4.6 At least every 4 years, the Operator shall review the Incident Prevention and Mitigation Plan required under Condition 2.4.5. Each review of the said Incident Prevention and Mitigation Plan shall be recorded and where the Operator makes any revisions to the said plan, said revisions shall be recorded.

2.5 Resource Utilisation

2.5.1 At least every 4 years, the Operator shall carry out a systematic assessment of the raw material, energy and fuel consumption, emissions and waste production associated with the Permitted Activities. The purpose of the assessment shall be to identify methods of reducing raw material, energy and fuel consumption, emissions and waste production. Each assessment shall be recorded. A summary of any energy use or waste minimisation

projects identified as a result of said assessment and the estimated costs and pay back period relating to each project shall be reported.

2.5.2 In respect of raw materials, energy and fuel consumed, emissions and waste produced within the Permitted Installation, the Operator shall record the data specified in Table 2.2 at the frequency specified in that Table and shall report that data.

2.5.3 For the purposes of Conditions 2.5.1 and 2.5.2, "raw materials, energy and fuel" shall mean the materials listed in Table 2.3.

2.6 Waste Management

2.6.1 At least every 4 years, the Operator shall carry out a systematic assessment and review of the management of all wastes generated by the Permitted Activities. The purpose of the assessment shall be to identify methods of avoiding or reducing the impact on the environment of the disposal of waste. Each assessment shall be recorded and reported.

2.6.2 The Operator shall maintain a record of the location, estimated quantities and types of all wastes stored within the Permitted Installation. The said record shall be updated monthly.

2.7 Protection of Soil and Groundwater

2.7.1 Unless specified elsewhere in this Permit there shall be no emission of any Pollutants to groundwater or soil from the Permitted Installation.

2.7.2 The Operator shall maintain a record of any incident that has, or might have, impacted on the condition of any soil or groundwater under the Permitted Installation, either as a result of that incident or as a result of an accumulation of incidents, together with a record of any further investigation or remediation work carried out.

2.7.3 Notwithstanding the requirements of Condition 2.2.2, the record required by Condition 2.7.2 shall be preserved until this Permit is surrendered.

2.8 Start Up

2.8.1 By the 31st March 2008 the Operator shall prepare, implement and maintain a plan ("the Start Up Plan") setting out the necessary steps to be taken by the Operator prior to start up of operations of the Permitted Installation to ensure that all appropriate preventative measures are taken against pollution and that no significant pollution is caused.

2.8.2 At least every 4 years, the Operator shall review the Start Up Plan required under Condition 2.8.1. Each review of the said Start Up Plan shall be recorded and where the Operator makes any revisions to the said plan, said revisions shall be recorded.

2.9 De-commissioning

2.9.1 By the 31st March 2009 the Operator shall prepare and maintain a plan ("the De-commissioning Plan") for the decommissioning of the Permitted

Installation. The De-commissioning Plan shall set out the steps to be taken by the Operator after final cessation of the Permitted Activities.

2.9.2 The Operator shall notify SEPA in writing of its intention to cease the Permitted Activities, or any part thereof, for any period exceeding 12 months, no later than 2 months prior to the proposed date of cessation.

2.9.3 The Operator shall implement the De-commissioning Plan on final cessation of the Permitted Activities or any part thereof.

2.9.4 The Operator shall review, record and, where necessary, update the De-commissioning Plan as follows: -

2.9.4.1 At least every 4 years; and

2.9.4.2 Where the Operator plans to make a substantial change in the extent or nature of the Permitted Installation.

2.10 Sampling and Monitoring Facilities

2.10.1 Sampling measurement and monitoring facilities at the Permitted Installation shall conform to the requirements of the relevant test methods specified in any Condition of the Permit or as otherwise agreed in writing by SEPA.

2.10.2 Unrestricted access to all sampling points required by any Condition of this Permit shall be provided at all times.

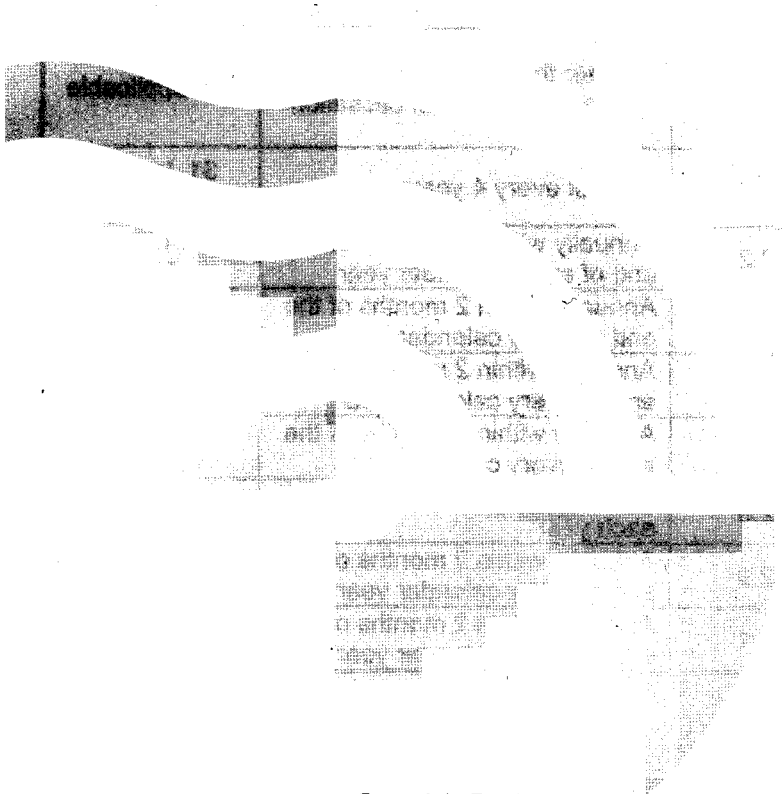


Table 2.1 - Reporting and Notification Requirements

Summary of Information to be Reported or Notified	Condition	Date/Within period/ Frequency to be Reported	Date First Report Due
Name of an appropriate person and deputy	2.1.1	With 4 weeks of date of Permit	Not applicable
Change of appropriate person or deputy	2.1.2	Without delay	Not applicable
Location of records if not at the Permitted Installation	2.2.2	Before records are transferred to the new location	Not applicable
Permitted Installation has not operated	2.3.2	Within one month of the end of the reporting period	Not applicable
Incident notification	2.4.2 & 2.4.3	Without delay by telephone and the next working day written confirmation	Not applicable
Incident investigation report	2.4.4	Within 14 days of the date of the Incident unless otherwise agreed in writing with SEPA	Not applicable
Resource utilisation report	2.5.1	At least once every 4 years	28 February 2009
Raw material utilisation data report	2.5.2	Annually within 2 months of the end of every calendar year	28 February 2008
Waste management review report	2.6.1	At least every 4 years	28 February 2010
Cessation of Permitted Activities notification	2.9.2	No later than 2 months prior to the proposed date of cessation	Not applicable
Noise assessment report	3.1.1 & 3.1.2	At least every 4 years	31 January 2009
Groundwater monitoring	3.3.2	Annually within 2 months of the end of every calendar year	28 February 2008
Air emission report	4.1.4	Annually within 2 months of the end of every calendar year	28 February 2008
Mass and combined emission to air report	4.1.5	Annually within 2 months of the end of every calendar year	28 February 2008
Water emission report	4.2.5	Annually within 2 months of the end of every calendar year	28 February 2008
Reviewed Sampling Plan report	4.2.6	Annually by the 1st December each year	1 December 2008
Water disposal sampling and disposal	4.2.9	Annually within 2 months of the end of every calendar year	28 February 2008
Flaring events	4.3.1	Annually within 2 months of the end of every calendar year	28 February 2008

Planned flaring notification	4.3.5	At lease 7 days before the planned flaring	Not applicable
Flare out of service notification	4.3.6	At least 24 hours before the flaring is taken out of service	Not applicable
Reporting of specific energy consumption ratio	4.4.2	Annually within 2 months of the end of every calendar year	28 February 2008
Furnace energy efficiency	4.4.3	Annually within 2 months of the end of every calendar year	28 February 2008
Furnace energy efficiency review	4.4.4	Annually within 2 months of the end of every calendar year	28 February 2008
Assessment of integrity of drainage system	4.7.1	30 June 2009	Not applicable
BAT assessment on the integrity and adequacy of bunding	4.7.2	31 October 2008	Not applicable
BAT assessment on the techniques for monitoring water emissions from W01	4.7.3	31 March 2009	Not applicable
BAT assessment of emissions to atmosphere form the installation including those from flares	4.7.4	31 October 2008	Not applicable

Table 2.2 - Resource Utilisation Data Recording

Data required to be recorded by Condition 2.5.2	Recording Frequency
Raw Material Consumption	Monthly and Annually
Energy Consumption	
Fuel Consumption	
Waste Production (by waste type)	
Fugitive Hydrocarbon Emissions	Annually

Table 2.3 - Raw Materials, Energy and Fuel

Raw Material/Energy/Fuel	**Unit of Measurement**
Natural Gas Liquids	Tonnes and MWhr
Natural Gas (imported from national grid)	Tonnes and MWhr
Total quantity of hydrocarbons lost through fugitive emissions.	Tonnes and MWhr
Fuel gas consumed (by type as methane, ethane, propane)	Tonnes and MWhr
Fuel gas exported (by type as methane, ethane, propane)	Tonnes and MWhr
Ethane exported (by destination)	Tonnes and MWhr
Propane exported (by destination)	Tonnes and MWhr
Butane exported (by destination)	Tonnes and MWhr
Natural gasoline exported (by destination)	Tonnes and MWhr
Electricity	MWhr
Diesel	m^3 and MWhr
Heating Oil	m^3 and MWhr
Mineral Oil (Essotherm)	Tonnes
Methanol	Tonnes
Nitrogen (Bought in / Produced)	Tonnes
Mono-ethylene Glycol	Tonnes
Water	m^3
Steam	Tonnes and MWhr
Molecular sieve bed material	Tonnes
Fire Fighting Foam (by type)	m^3

3 CONDITIONS APPLYING TO THE PERMITTED INSTALLATION AS A WHOLE

3.1 Noise and Vibration

3.1.1 Subject to Condition 3.1.2, at least every 4 years, the Operator shall carry out a systematic assessment of noise and vibration emissions associated with the Permitted Activities, the purpose of which shall be to identify methods of reducing noise and vibration emissions. Each assessment shall be recorded and reported to SEPA.

3.1.2 Not withstanding Condition 3.1.1 the first systematic assessment of noise and vibration Emissions required under Condition 3.1.1 shall be carried out by 31 January 2009.

3.1.3 The Operator shall by 31 January 2009, produce a noise and vibration management plan which shall specify the methods to be utilised for the purposes of reducing noise and vibration Emissions associated with the Permitted Activities in accordance with the findings of the first assessment required under Condition 3.1.2 above and estimated dates for implementation of those measures ("the Noise and Vibration Management Plan"). The Noise and Vibration Management Plan shall be reviewed at least every 4 years and updated, as necessary, to take account of any subsequent assessment or assessments carried out in accordance with Condition 3.1.1 above.

3.1.4 The Noise and Vibration Management Plan and all actions taken in accordance with the Noise and Vibration Management Plan shall be recorded.

3.2 Odour Conditions

3.2.1 All emissions to air from the Permitted Installation shall be free from offensive odour, as perceived by an Authorised Person, outside the Site Boundary.

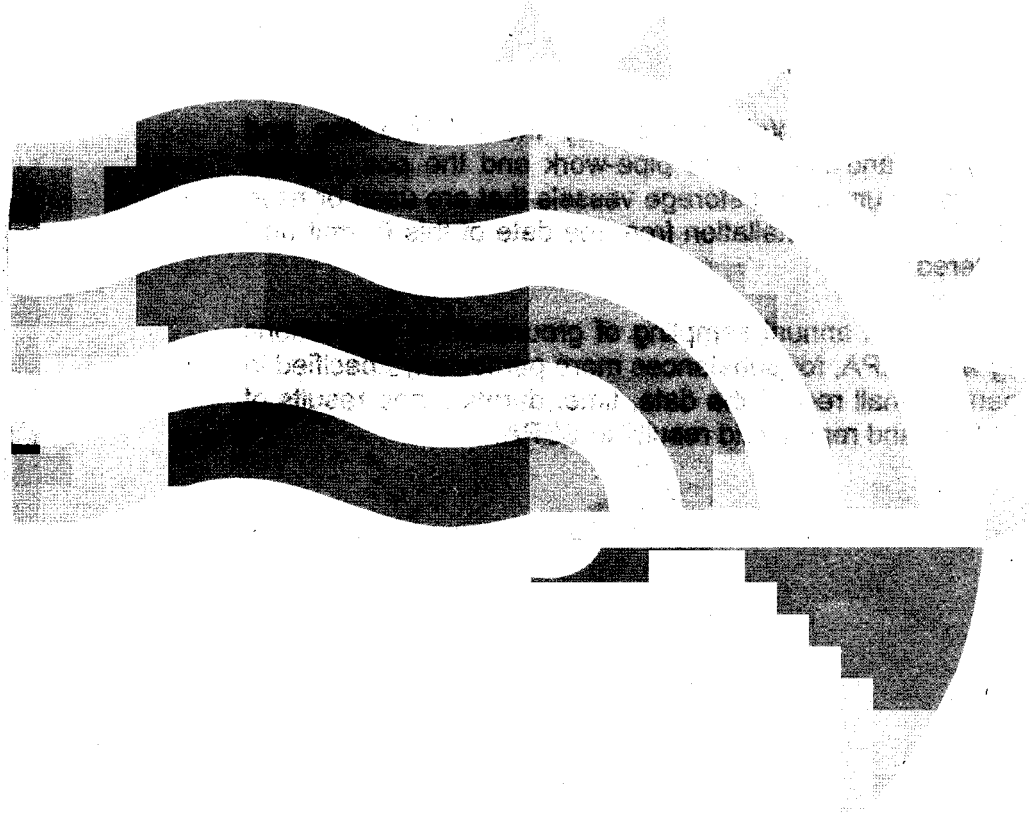
3.3 Groundwater and Soil Protection

3.3.1 The Operator shall maintain plan(s) that identify the configuration and specification of all drains and subsurface pipe-work and the position and purpose of all sub-surface sumps and storage vessels that are used or have been used within the Permitted Installation from the date of this Permit until the Permit is surrendered.

3.3.2 The Operator shall carry out annual sampling of groundwater, at locations as agreed in writing with SEPA, for substances more particularly specified in Table 3.1. The Operator shall record the date, time, duration and results of all monitoring carried out and report said results to SEPA.

Table 3.1 – Groundwater Sampling

PARAMETER
Total hydrocarbons encompassing the range C7 and C40 with appropriate speciation to characterise any compounds identified.
Heavy Metals (Mercury, Lead, Cadmium, Copper, Chromium, Zinc, Vanadium and Manganese)
Mono Ethylene Glycol
BTEX
4 Methyl Phenol



4 CONDITIONS APPLYING TO THE GAS TERMINAL

4.1 Air Emission Conditions

4.1.1 The emissions to air specified in Table 4.1 shall only be permitted from the emission locations specified in that Table and shall not exceed the limits for the parameters specified in said Table.

4.1.2 The Operator shall carry out spot sampling (**SS**) and continuous **(C)** monitoring of emissions of the parameters specified in Table 4.2, at the sampling location specified in Table 4.1 and subject to the requirements for monitoring specified in Table 4.2.

4.1.3 For any parameter specified in Table 4.1, all results of monitoring carried out under Condition 4.1.2 shall be corrected to the reference conditions as specified in Table 4.3. The results of all tests and data used to correct the monitoring results to the reference condition specified in Table 4.3 shall be recorded.

4.1.4 The Operator shall record the date, time, duration and results of all monitoring carried out under Condition 4.1.2 and report said results. For each result, the report shall include the operational mode and throughput of the Permitted Installation and plant at the time of monitoring, the operating rate of each furnace expressed in MW net thermal input, the name of the person carrying out the monitoring, any deviations from the methods specified in Table 4.2 and the associated confidence interval.

4.1.5 The Operator shall record and report the mass emission results for the parameters of the combined emissions specified in Table 4.4 using the method agreed in writing with SEPA. This information shall be reported in a format agreed in writing with SEPA.

4.1.6 Information used to estimate mass emissions in compliance with Condition 4.1.5 shall be recorded for each estimate.

4.2 Water Environment and Sewer Discharge Conditions

4.2.1 The emissions to the water environment specified in Table 4.5 shall only be permitted from the emission points specified in that Table to the destinations specified in said Table and only after having passed through the sample points specified in that Table.

4.2.2 Subject to Condition 4.2.3, no emission specified in Table 4.5 shall exceed the limit, or be outwith the range, as appropriate, for the parameters specified in said Table.

4.2.3 Where the limit for any parameter in Table 4.5 is prefixed with CL, CU, A, IL or IU the following Conditions shall apply in respect of that parameter:

4.2.3.1 Subject to Condition 4.2.3.2 and 4.2.3.3, no sample of any emission shall exceed the instantaneous lower limit (IL) or composite lower limit (CL) as appropriate;

4.2.3.2 The limit in Condition 4.2.3.1 may be exceeded where, in any series of samples of any emission taken by SEPA at regular but randomised intervals

over a year (as listed in column 1 (and 3) of Table 4.7), no more than the number of samples (as listed in column 2 (and 4) of Table 4.7) exceed the IL or CL, as appropriate;

4.2.3.3 The limit in Condition 4.2.3.1 may be exceeded where, in any series of samples of any emission taken in accordance with the sampling plan required under Condition 4.2.6 over any year (as listed in column 1 (and 3) of Table 4.7), no more than the number of samples (as listed in column 2 (and 4) of Table 4.7) exceed the IL or CL, as appropriate;

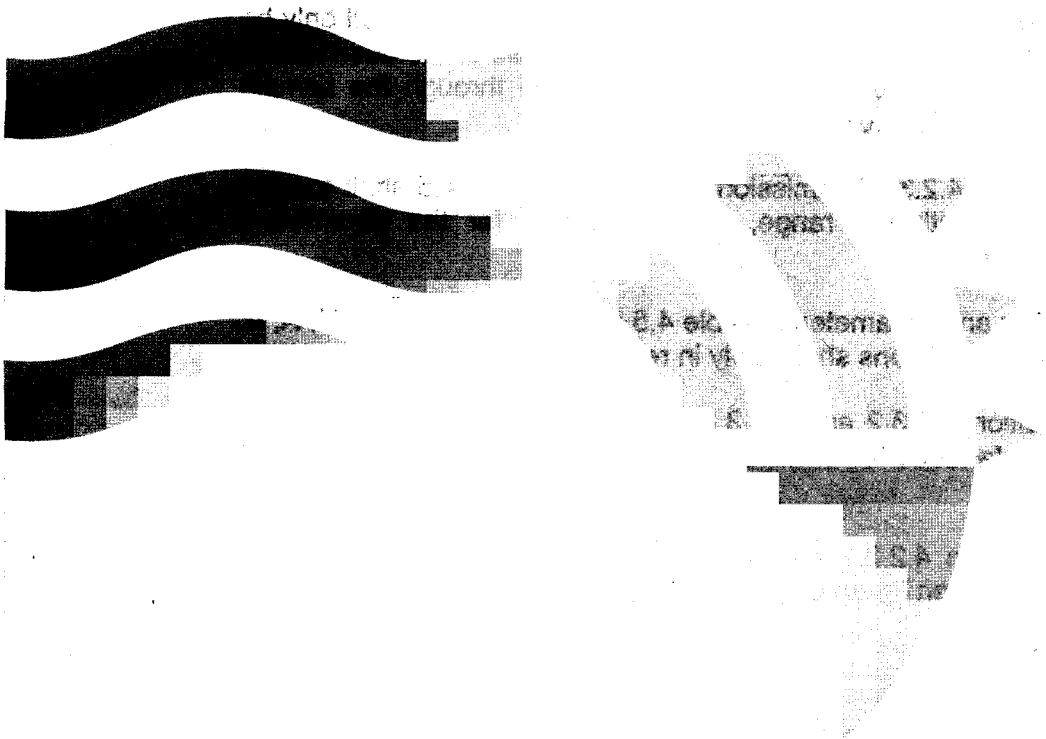
4.2.3.4 Notwithstanding Condition 4.2.3.2 and 4.2.3.3, no sample of any emission shall exceed the instantaneous upper limit (IU) or composite upper limit (CU), as appropriate;

4.2.3.5 Notwithstanding Conditions 4.2.3.2, 4.2.3.3 and 4.2.3.4, where the limit for any parameter in Table 4.5 is prefixed with CL or CU, no sample of any emission shall exceed the absolute limit (A).

4.2.4 Measurement and/or sampling of the emissions in Table 4.5 shall be carried out by the Operator at the sampling locations specified in that Table subject to the requirements for monitoring specified in Table 4.6.

4.2.5 The date, time and results of all samples and measurements carried out in compliance with Condition 4.2.4 shall be recorded by the Operator and reported.

4.2.6 A sampling plan shall be agreed in writing with SEPA and shall be maintained and reviewed annually. The reviewed sampling plan shall be reported each year for the forthcoming calendar year.



4.2.7 All water removed from any sump, bund or gully shall be sampled and tested for glycol, oil, suspended solids and pH.

4.2.8 All water removed from any sump, bund or gully may be discharged into the Continually Oil Contaminated drainage system upstream of the Tilted plate separator as described in Condition 1.1.5.14 (a) on compliance with requirements set out in Conditions 4.2.8.1, 4.2.8.2 and 4.2.8.3; otherwise it shall be disposed of off site.

4.2.8.1 contains no glycol;

4.2.8.2 the concentrations of oil and suspended solids are lower than the lower limit specified in column 3 of Table 4.5; and

4.2.8.3 the pH is within the range specified in column 3 of Table 4.5.

4.2.9 The disposal of water removed from any sump, bund or gully shall be recorded and reported to SEPA. The record shall include the date, time and volume of water removed, the results of all tests, the route by which the water is disposed of and where the water was not discharged into the continually oil contaminated drainage a description of why the water was contaminated.

4.3 Flaring Operations

4.3.1 All flaring events shall be recorded and reported to SEPA. The record shall contain:

4.3.1.1 the date, time and duration of each flaring event;

4.3.1.2 the flare employed;

4.3.1.3 an estimate of the quantity of hydrocarbons flared;

4.3.1.4 the reason for the flaring event with identification of the root cause of the event;

4.3.1.5 the duration of any occurrence of black smoke, greater than Ringelmann shade 2;

4.3.1.6 actions taken to minimise emissions during the flaring event; and

4.3.1.7 actions taken to prevent reoccurrence of the flaring event.

4.3.2 Flaring which gives rise to, or is likely to give rise to dark smoke emissions greater than the equivalent of Ringelmann shade 2 for any periods greater than 15 minutes shall be treated as an Incident and the terms of Conditions 2.4.1 through to and including 2.4.6 shall apply.

4.3.3 SEPA shall be notified in writing of any major planned flaring. The notification shall be given at least 7 days before the planned flaring event and shall include:

4.3.3.1 the reason why the planned flaring is required;

4.3.3.2 an estimate of the quantity of hydrocarbons to be flared; and

4.3.3.3 an estimate of the time period that major flaring will take place over.

4.3.4 Any major flaring events not notified under Condition 4.3.3 shall be classified as an incident and the terms of Conditions 2.4.1 through to and including 2.4.6 shall apply.

4.3.5 SEPA shall be notified in writing when any flare is to be taken out of service. The notification shall be given at least 24 hours before the flare is taken out of service and shall include:

4.3.5.1 the reason why the flare is out of service;

4.3.5.2 an estimate of the time that the flare will be out of service; and

4.3.5.3 a description of how flaring operations are to be managed during the period when the flare is out of service.

4.3.6 Continuous monitoring of the performance of all flare stacks shall be provided in the control room, by colour television monitor.

4.3.7 Colour time lapse recording of all flare stacks shall be provided. The time and date shall be superimposed on the recorded pictures. The records shall be kept for a minimum of 6 months.

4.3.8 Flaring from the installation shall take place preferentially on the Ground Flares.

4.3.9 Where the Ground Flares are not employed the reason for this shall be included within the report required by Condition 4.3.1.

4.4 Resource Utilisation

4.4.1 Every year, the Operator shall calculate the following specific energy consumption ratios:

(a) energy consumed to energy exported; and

(b) energy wasted to energy exported.

4.4.2 The terms "energy consumed", "energy exported" and "energy wasted" shall be as defined in Table 4.8 or else as agreed in writing with SEPA. The ratios required to be calculated by Condition 4.4.1 together with the calculation shall be recorded and reported to SEPA.

4.4.3 The thermal efficiency, expressed as a percentage, of each furnace, as described in paragraph 1.1.4.1, shall be calculated monthly, by employing the ratio between the heat transferred into the hot oil divided by the heat content (net calorific value) of the fuel fed to the furnace. The ratio calculated shall be recorded and reported to SEPA.

4.4.4 At least every year the Operator shall carry out a review of the thermal efficiency of each furnace. The purpose of the review shall be to provide an explanation of the thermal losses which account for the thermal efficiency. Each review shall be recorded and reported to SEPA.

4.5 Waste Handling and Storage

4.5.1 The residue and waste materials described in Table 4.9 shall only be stored on the Permitted Installation at the location, following the method, and in the quantities specified in that Table.

4.6 Incident Prevention

4.6.1 The raw materials and products described in Table 4.10 shall only be stored on the Permitted Installation at the location, following the method and in the quantities specified in that Table.

4.7 Upgrade Requirements

4.7.1 By the 30 June 2009 the Operator shall carryout a systematic assessment of the integrity of the drainage system and underground sumps or chambers together with their associated pipework. The purpose of the assessment shall

be to identify any remedial action required to ensure compliance with condition 2.7.1. The assessment shall be recorded and reported to SEPA and shall include any required upgrade work identified as a result of the assessment together with the proposed timescales for completion of such upgrade work.

4.7.2 By the 31 October 2008 the Operator shall carryout a systematic assessment of the integrity and adequacy of bunding arrangements utilised at the Permitted Installation. The purpose of the assessment shall be to ensure that Best Available Techniques are being employed. The assessment shall be recorded and reported to SEPA and shall include any required upgrade work identified as a result of the assessment together with the proposed timescales for completion of such upgrade work.

4.7.3 By the 31 March 2009 the Operator shall carryout a systematic assessment into the feasibility of measuring BOD and COD on emission point W01. The purpose of the assessment shall be to demonstrate the most appropriate parameter to be measured in order to provide protection to the water environment and shall be to ensure that Best Available Techniques are being employed. The assessment shall be recorded and reported to SEPA and shall include any required upgrade work identified as a result of the assessment together with the proposed timescales for completion of such upgrade work.

4.7.4 By the 31 October 2008 the Operator shall carryout a systematic assessment of the atmospheric emissions from the Permitted Installation, having due consideration to the impact from flaring episodes in isolation and in combination with other sources. The purpose of the assessment shall be to characterise the level of impact on the environment and shall be to ensure that Best Available Techniques are being employed. The assessment shall be recorded and reported to SEPA and shall include any required upgrade or further characterisation work identified as a result of the assessment together with the proposed timescales for completion of such upgrade or further characterisation work.

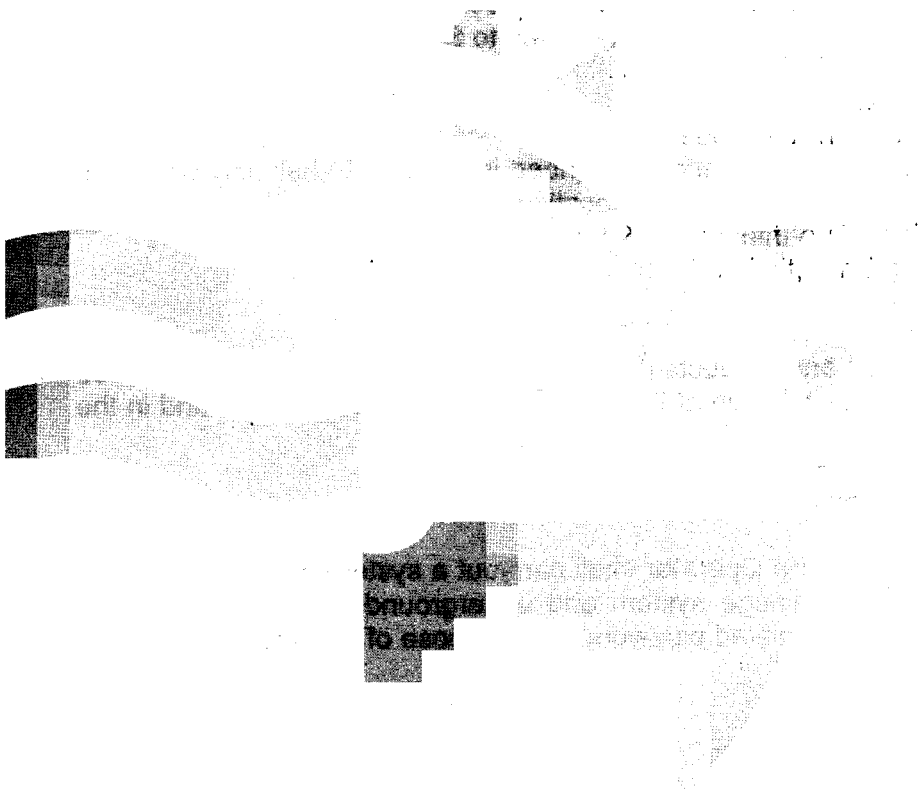


Table 4.1 - Emissions to Air ELVs

Source of Emission	Emission point number	A01	A02	A03	A04	A05	A06	A07
	Emission source	Module 1 Furnace & Regeneration Heater (1-F5501 & 1-F1301)	Module 2 Furnace & Regeneration Heater (2-F5501 & 2-F1301)	Module 3 Furnace & Regeneration Heater (3-F5501 & 3-F1301)	HP/LP Elevated Flare (A 7001)	LP Elevated Flare (A 7003)	Ground Flare A (A 7005)	Ground Flare B (B 7005)
	Stack height/ diameter (m)	48/2.44	48/2.44	48/2.44	19.8/3.06	32.3/1.37	41.1/1.9	60/0.82
	Location on Site Plan	A01	A02	A03	A04	A05	A06	A07
	NGR	NT 19430 90503	NT 19547 90504	NT 19629 90485	NT 19129 90463	NT 19129 90463	NT 18976 90352	NT 18976 90352
Monitoring Details	Type of Monitoring	SS	SS	SS	SS	SS	SS	SS
	Sampling Location	Furnace Exhaust	Furnace Exhaust	Furnace Exhaust	Flare Exhaust	Flare Exhaust	Flare Exhaust	Flare Exhaust
Limits for Parameters from Emission Source	Oxides of Nitrogen mg/m^3	150	150	150	-	-	-	-
	Oxides of Sulphur mg/m^3	10	10	10	-	-	-	-
	Carbon Monoxide mg/m^3	100	100	100	-	-	-	-
	Maximum oxygen in discharged combustion gas % oxygen v/v	7.5	7.5	7.5	-	-	-	-
	Smoke	Ringelmann Shade 1	Ringelmann Shade 1	Ringelmann Shade 1	Ringelmann Shade 2 > 15mins	Ringelmann Shade 2 > 15mins	Ringelmann Shade 2 > 15mins	Ringelmann Shade 2 > 15mins

Table 4.1 - Emissions to Air ELVs (Continued)

Source of Emission	**Emission point number**	A08	A09	A10	A11	A12	A13
	Emission source	Natural Gasoline Storage Tank (T-3401)	Natural Gasoline Storage Tank (T-3402	Ground Flare Common Seal Drum (V-7003)	Flare Knock Out Drums (V-7001 & V-7001)	Hot Oil Storage Tank (T-5501)	Nitrogen Storage Tank (T-4601)
	Stack height/ diameter (m)	N/A	N/A	N/A	N/A	N/A	N/A
	Location on Site Plan	A08	A09	A10	A11	A13	A15
	NGR	N/A	N/A	N/A	N/A	N/A	N/A
Monitoring Details	**Type of Monitoring**	-	-	-	-	-	-
	Sampling Location	-	-	-	-	-	-
Limits for Parameters from Emission Source	**Oxides of Nitrogen mg/m^3**	-	-	-	-	-	-
	Oxides of Sulphur mg/m^3	-	-	-	-	-	-
	Carbon Monoxide mg/m^3	-	-	-	-	-	-
	Maximum oxygen in discharged combustion gas % oxygen v/v	-	-	-	-	-	-
	Smoke	-	-	-	-	-	-

Table 4.2 - Emissions to Air Monitoring Requirements

Parameter	Emission point number	Spot Sampling (SS)		
		Standard	Frequency	Operational Mode
Oxides of Nitrogen	A01, A02 & A03	Direct measurement with portable Flue Gas Analyser	Monthly	Operational
Oxides of Sulphur	A01, A02 & A03	Direct measurement with portable Flue Gas Analyser	Monthly	Operational
Carbon Monoxide	A01, A02 & A03	Direct measurement with portable Flue Gas Analyser	Monthly	Operational
Smoke	A01, A02, A03, A04, A05, A06 & A07	BS 2742:1969	Start Up / Shut Down	Start Up/ Shut Down
			Daily	Operational
Furnace Efficiency	A01, A02 & A03	Calculated	Monthly	Operational
Thermal Input (MW)	A01, A02 & A03	Calculated	Monthly	Operational
Number of Burners being employed	A01, A02 & A03	Manual Measurement	Monthly	Operational

Table 4.2 - Emissions to Air Monitoring Requirements (Continued)

Parameter	Emission point number	Continuous (C)		
		Type	Sample Time	Averaging Period and Time Span for Percentage Limits
Oxygen %	A01, A02 & A03	Continuous online measurement employing Total Distributed Control 3000 system	TBC	Operational
Operating Rate	A01, A02 & A03	Continuous online measurement employing Total Distributed Control 3000 system	TBC	Operational
Type of fuel being burned	A01, A02 & A03	Continuous online measurement employing Total Distributed Control 3000 system	TBC	Operational

Table 4.3 - Reference Conditions

Emission Point Number	Reference Condition
A01, A02 & A03	Dry, 273K, 101.3kPa, Oxygen 3%v/v

Table 4.4 - Mass Emissions to Air

Parameter	Combined Emissions (Number)	Method (Summary)	Mass Emissions Result to be recorded as
Oxides of Nitrogen (expressed as nitrogen dioxide)	A01 to A07 inclusive	As Agreed in writing with SEPA	Tonnes per month
Oxides of Sulphur	A01 to A07 inclusive		Tonnes per month
Carbon Dioxide	A01 to A07 inclusive		Tonnes per month
Total Organic Carbon	A08 & A09 inclusive		Tonnes per month

Table 4.5 - Emissions to Water Environment/Sewer ELVs

Source of Emission	**Emission number point**	W01
	Source of Emission	Fire Water Pond Discharge
	Destination	Dronachy Burn
	Emission location NGR	NT 2013 9105
	Emission location on Figure 4.2	W01
	Sampling location	Discharge Outlet
Limits For Parameters From Emission Source	**pH**	6 – 9.5
	Total Suspended Solids mg/l	IL 5 IU 10
	Total Petroleum Hydrocarbons (Oil in Water) mg/l	IL 1 IU 3
	Mercury mg/l	-
	Cadmium mg/l	-
	Flowrate l/s	
	Temperature °C	A 25
	Dissolved Oxygen mg/l	> 9

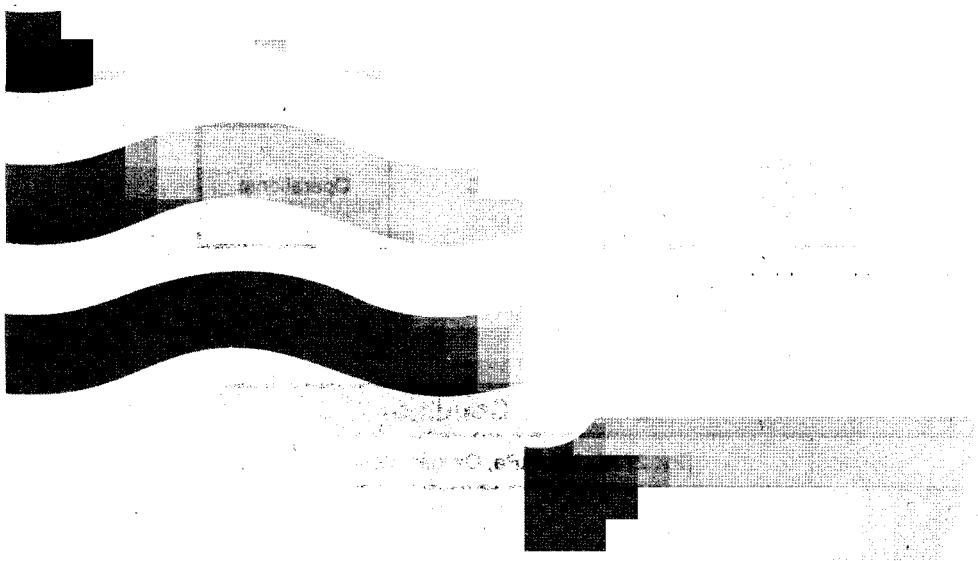


Table 4.6 - Emissions to Water Environment/Sewer Monitoring Requirements

Parameter	Emission (Number(s))	Test Method	Reporting Format	Sampling/ Measurement Facility	Instantaneous Frequency
pH	W01	Manual sample with in-house analysis Hanna 210 pH to standard ISO10523:1994	pH Units	W01	Weekly
Total Suspended Solids	W01	Manual sample Analysis to standard ISO 11923:1997	mg/l	W01	Weekly
Total Petroleum Hydrocarbons (Oil in Water)	W01	Manual sample Analysis to standard ISO 9377 Part 2	As mg/l oil	W01	Weekly
Temperature °C	W01	Manual sample Digital Thermometer	As mg/l oil	W01	Weekly
Dissolved Oxygen mg/l	W01	Manual sample with in-house analysis	As mg/l oxygen	W01	Weekly
Flowrate	W01	Manual sample Employing an in-situ calibrated weir plate and reference chart.	Litres per second	W01	Weekly
Mercury	W01	Manual sample with external / internal analysis to UOP938	As µg/l Mercury	W01	Annually
Cadmium	W01	Manual sample with external analysis	As µg/l Cadmium	W01	Annually

Table 4.7 - Two Tier Consent Table

Series of samples taken in any period of 12 consecutive months	Maximum permitted number of samples which fail to conform	Series of samples taken in any period of 12 consecutive months	Maximum permitted number of samples which fail to conform
1 - 7	1	172 - 187	14
8 - 16	2	188 - 203	15
17 - 28	3	204 - 219	16
29 - 40	4	220 - 235	17
41 - 53	5	236 - 251	18
54 - 67	6	252 - 268	19
68 - 81	7	269 - 284	20
82 - 95	8	285 - 300	21
96 - 110	9	301 - 317	22
111- 125	10	318 -334	23
126 - 140	11	335 - 350	24
141 - 155	12	351 - 365	25
156 - 171	13		

Table 4.8 - Definitions for Specific Energy Consumption Calculation

Factor	Definition
Energy consumed	The sum of: o The thermal energy of fuel gas consumed; o The thermal energy of fuel (National Grid) gas imported; o The thermal energy of the diesel fuel consumed; o Steam imported; o The thermal energy of the hydrocarbons flared from the permitted installation, including flare pilot; o The thermal energy of hydrocarbons vented; o Electrical energy imported.
Energy exported	The sum of the following thermal energy: o Ethane, Propane, Butane and Natural Gasoline exported.
Energy wasted	The sum of the following thermal energy: o Hydrocarbons flared from the permitted installation (does not include pilot gas); and o Hydrocarbons vented.

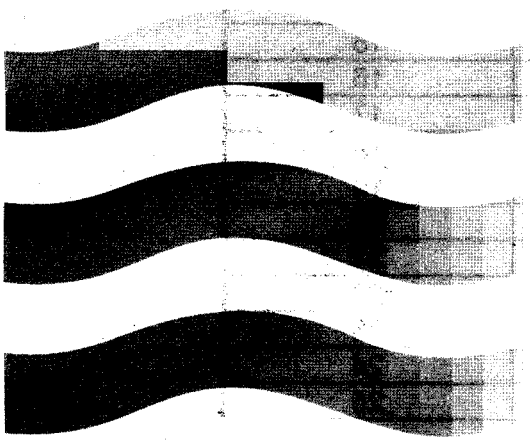


Table 4.9- Waste Handling and Storage

Description of Waste	Location of Storage	Method of Storage	Maximum Permitted Quantity	Storage Conditions
Scrap metal	Fabrication Shop	1 cubic yard skip	1 Skips	Skips or Sealed containers on an area of hardstanding with kerbing and fall to prevent run-off
	Laydown Area	14 cubic yard skip	1 Skips	
	Stores Yard	40 cubic yard RoRo	2 RoRo's	
Wood	Stores Yard	40 cubic yard RoRo	2 RoRo's	
Plastics	Stores Yard	40 cubic yard RoRo	2 RoRo's	
Cardboard	Stores Yard	40 cubic yard RoRo	2 RoRo's	
Stainless Steel	Stores Yard	18 cubic yard box skip	2 boxes	
Aerosol Cans	Special Waste Area	205 litre drums	4 Drums	
Batteries	Special Waste Area	Pallet	4 Pallets	
Paint Sludges / Thinners / Rags / Paint tins with residues	Fabrication Shop	100 litre drum	2 Drums	
	Special Waste Area	Waste Safe	2	
	Special Waste Area	Paint Safe	2	
Oily waste	Special Waste Yard	1000 litre IBC's & 205 litre drums	4 IBC's & 12 Drums	
Chemical/ hazardous waste	Special Waste Yard	205 litre drums	8 Drums	
Fluorescent Tubes	Road 5	Tube Safe	2	
	Stores yard	Tube Safe	2	
Rockwool Insulation	Stores Yard	40 cubic yard RoRo	2 RoRo's	
Electrical Waste	Road 5	8 cubic yard skip	1	
	Stores yard	Waste Safe	2	
Spent Mole sieve material	N/A	Removed by Tanker	N/A	
Glycol/Water mix	Special Waste Yard	20000 litre tanker	3	Bunded on hardstanding with kerbing and fall to prevent run-off
Builders waste (such as concrete, bricks, tiles)	Within Installation	30 cubic yard RoRo	2 RoRo's	Skips / RoRo's
Soil - Uncontaminated	Within Installation	8 cubic yard skip	4 Skips	
Grit/Shot blast waste	Within Installation	8 cubic yard skip	6 Skips	Covered Skips on an area of hardstanding with kerbing and fall to prevent run-off
Asbestos	Stores	Lockable Box (Enviroc4)	1 Box	
	Special Waste Area	205 litre drums	4 Drums	
General Waste	Control Room	8 cubic yard skip	1 Skip	
	Workshop	8 cubic yard skip	1 Skip	

Table 4.10 - Storage of Raw Materials

Description of Raw Material	Location of Storage	Method of Storage	Maximum Permitted Quantity	Storage Conditions
Diesel	White Diesel Tank	Tank	29 m^3	Totally enclosed and bunded
	T-7102 A	Tank	8.65 m^3	
	T-7102 B	Tank	8.65 m^3	
	T-5001	Tank	9.2 m^3	
	T-5003	Tank	1.5 m^3	
	T-6101	Tank	0.4 m^3	
Mono Ethylene Glycol (MEG)	V-7001 & V-7002	Tank	120 m^3	Totally enclosed over hardstanding
	V-7003	Tank	100 m^3	Totally enclosed over hardstanding
	Store / Warehouse	205 Litre Drums	8200 Litres	On hardstanding and bunded
Methanol	Store / Warehouse	205 Litre Drums	2050 Litres	Totally enclosed and bunded
Nitrogen (Liquid)	V-5601	Tank	9.28 m^3	Totally enclosed, double walled and bunded
Mineral (Hot) Oil	3 x separate hot oil systems	Pipework & V-5501	3 x 105 m^3	Totally enclosed, hardstanding
	T- 5501	Tank	105 m^3	Totally enclosed
	Store / Warehouse	205 Litre Drums	410 Litres	On hardstanding and bunded
	Mobile Tanks	Tank	108 m^3	
Lube oil and grease	Store / Warehouse	20 Litre Drums 25 Litre Drums 205 Litre Drums	3140 Litres	On hardstanding and bunded
Fire fighting foam	Store / Warehouse	Various	45 m^3	On hardstanding and bunded
Propane	T-3201	Tank	50,000 m^3	Bunded, double contained, insulated and level alarms
	T-3202	Tank	50,000 m^3	
Butane	T-3301	Tank	35,000 m^3	
	T-3302	Tank	35,000 m^3	
Gasoline	T-3401	Tank	30,500 m^3	Bunded, Floating roof and level alarms
	T-3402	Tank	30,500 m^3	

Figure 4.1 Air Emission Locations

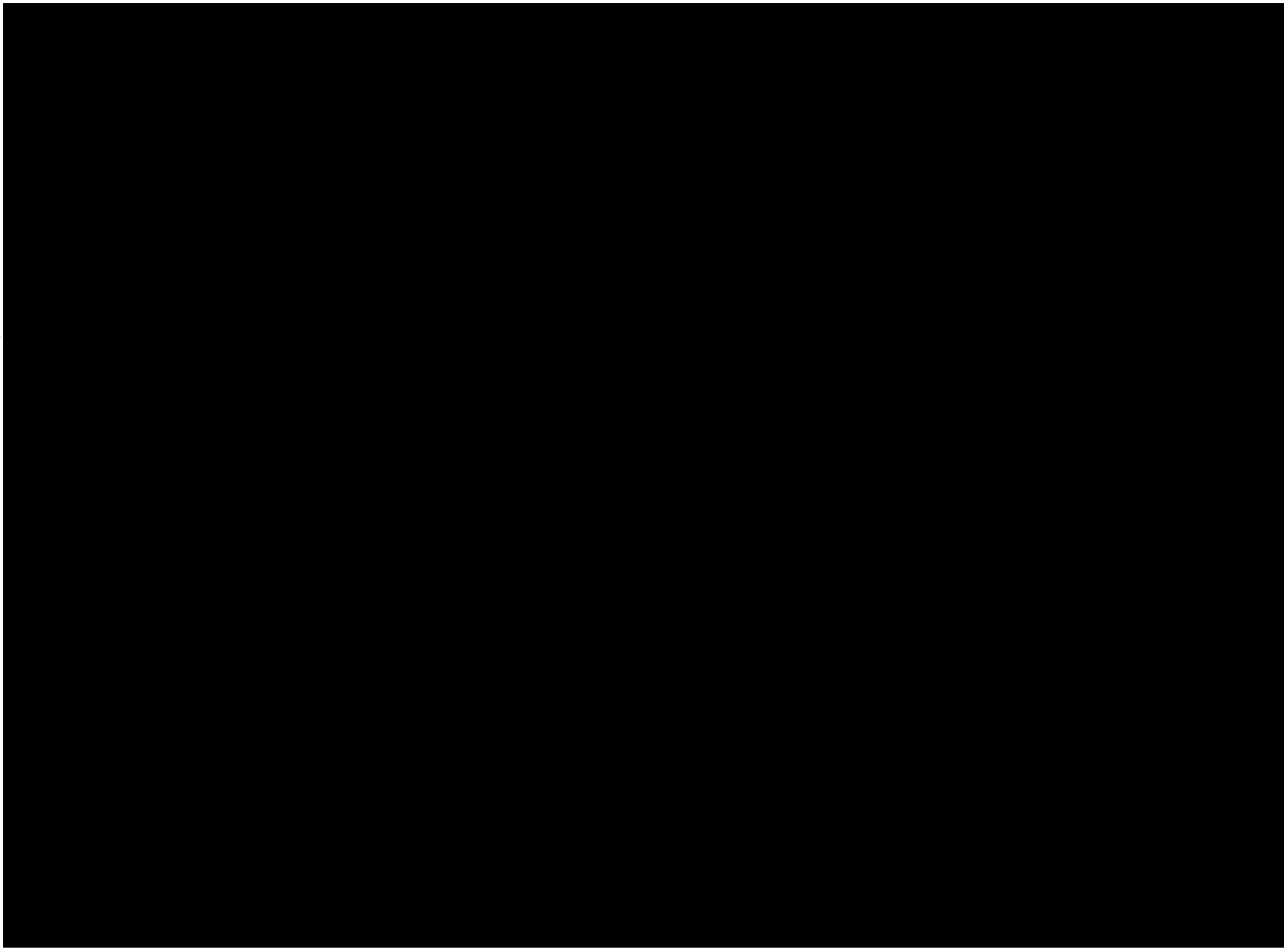


Figure 4.2 Water Emission Locations

EXPLANATORY NOTES

(These Explanatory Notes do not form part of the Permit)

1. BAT

It should be noted that Regulation 9(11) & (12) of the Regulations specify that there is an implied Condition in every Permit that, in operating the installation or mobile plant, the Operator shall use the best available techniques (BAT) for preventing or, where that is not practicable, reducing Emissions from the installation or mobile plant.

This implied Condition does not apply in relation to any aspect of the operation of the installation or mobile plant, which is regulated by a specific Condition of the Permit. Examples of aspects of the operation that have not been regulated by specific Conditions are management and supervision systems, training and qualification and maintenance in general.

BAT is defined in Regulation 3 of the Regulations as follows:

"Best available techniques" means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the basis for Emission limit values designed to prevent and, where that is not practicable, generally to reduce Emissions and the impact on the environment as a whole.

"available techniques" means those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable Conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the UK, as long as they are reasonably accessible to the operator.

"best" means in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole.

"techniques" includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

Schedule 2 of the Regulations specifies the matters to be taken into account in determining BAT.

In considering BAT, SEPA would expect the Operator to have regard to all relevant PPC sectoral or other technical guidance, including BAT Reference Documents published by the European Commission and UK technical guidance published by the Environment Agency.

2. GENERAL STATUTORY REQUIREMENTS

The Permit does not detract from any other statutory requirements applicable to you in respect of the Permitted Installation, such as any need to obtain planning permission or building regulations approval or any responsibilities under legislation for health, safety and welfare in the workplace.

3. APPEALS

If you are aggrieved by any of the Conditions of the Permit, you should initially contact the local SEPA Office at the address or telephone number below. Further information on your right of appeal and the appeals procedure is contained Regulation 22 and Schedule 8 of the Regulations.

4. SUBSISTENCE CHARGES

An annual subsistence charge will be payable in respect of the Permit in terms of the Pollution Prevention and Control (Scotland) Charging Scheme 2002 or any relevant charging scheme made under Section 41 of the Environment Act 1995, copies of which are available from SEPA.

5. ADDRESS AND TELEPHONE NUMBERS

The contact address and telephone number for all information to be reported in terms of the Permit, is as follows: -

The Registrar
Scottish Environment Protection Agency
Clearwater House
Heriot Watt Research Park
Avenue North
Riccarton
Edinburgh
EH14 4AP

Tel No: 0800 80 70 60 and/or 0131 449 7296
Fax No: 0131 449 7277
Email address: edinburghregistry@sepa.org.uk

6. REVIEW OF CONDITIONS

The Conditions of the Permit will be periodically reviewed by SEPA.

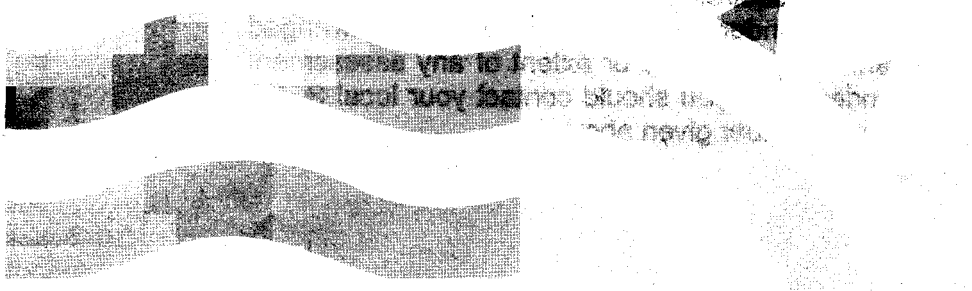
7. PROPOSED CHANGE IN OPERATION OF INSTALLATION

It is a requirement of Regulation 12 of the Regulations that if you propose to make a change in the operation of the installation, you must notify SEPA at least 14 days before making the change. The requirement under Regulation 12 does not apply if you have already made an application to SEPA for the variation of the Conditions of the Permit containing a description of the proposed change.

N.B. the requirements of Regulation 12 are in addition to any obligations you may have under the Permit itself to only operate the Permitted Installation in the manner set out in the Permit and to notify SEPA of proposed changes to the Permitted Installation.

Regulation 13 and Schedule 7 of the Regulations provide details on applications for variation of the Permit in respect of proposed changes and substantial changes in operation.

"Change in operation" and "substantial change in operation" are defined in Regulation 2 of the Regulations.



8. ENFORCEMENT & OFFENCES

If SEPA is of the opinion that you have contravened, or are contravening or are likely to contravene a Condition of the Permit it may serve an Enforcement Notice. Further details on Enforcement Notices are provided in Regulation 19 of the Regulations.

If SEPA is of the opinion that the operation of an installation or mobile plant involves a risk of serious pollution it must, in certain circumstances, serve a Suspension Notice on you. Further details on Suspension Notices are provided in Regulation 20 of the Regulations.

It is an offence to operate an installation or mobile plant covered by the Regulations without a Permit or in breach of the Conditions of the Permit. It is an offence to fail to comply with the requirements of an Enforcement or Suspension Notice. It is an offence to intentionally make a false entry in any record required to be kept under a Condition of a Permit. Further details on offences and on penalties liable to be imposed upon conviction of an offence are provided in Regulation 30 of the Regulations.

Directors, managers and other individuals within a company may be held personally liable for offences under the Regulations.

All personnel who are responsible for fulfilling any Condition of the Permit should be made aware of these facts.

9. RECORDED SYSTEMS, PROCEDURES OR INFORMATION RECORDING/RETURN REQUIREMENTS

Where a Condition requires any system, procedure or information record/return, the Operator may demonstrate compliance by making use of any relevant existing written system used for any other purpose and which meets the requirements of the relevant Condition.

10. SYSTEMATIC ASSESSMENT (AND REVIEW)

Where a Condition of the permit requires a "systematic assessment (and review)" the assessment should be undertaken in a methodical and arranged manner. If you require guidance on the scope or extent of any assessment (and review) required to be undertaken, you should contact your local SEPA office at the address or telephone number given above.