

**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/1013494**

Operator: ExxonMobil Chemical Limited

The Scottish Environment Protection Agency ("SEPA"), in accordance with Regulation 7 of the Regulations, hereby grants a permit to ExxonMobil Chemical Limited, company registration number 867162, having its registered office at ExxonMobil House, Ermyrn Way, Leatherhead, KT22 8UX ("the Operator") to operate part of an installation, more particularly described in Schedule 1 of this permit, on a site at ExxonMobil Chemical Limited Fife Ethylene Plant, Beverkae House, Cowdenbeath, Fife, KY4 8EP, 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.....  
Authorised.....  
Scottish Environment Protection Agency

Date: 29 October 2007

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**

<b>INTERPRETATION OF TERMS .....</b>	<b>3</b>
--------------------------------------	----------

**SCHEDULES**

<b>1 THE PERMITTED INSTALLATION .....</b>	<b>4</b>
1.1 Description of Permitted Installation .....	4
1.2 Description of the Permitted Installation .....	14
<b>2 GENERAL CONDITIONS .....</b>	<b>15</b>
2.1 Administration .....	15
2.2 Records.....	15
2.3 Reporting .....	15
2.4 Incidents.....	16
2.5 Resource Utilisation .....	16
2.6 Waste Management.....	17
2.7 Protection of Soil and Groundwater.....	17
2.8 Start Up.....	17
2.9 De-commissioning.....	17
2.10 Sampling and Monitoring Facilities .....	18
<b>3 CONDITIONS APPLYING TO THE PERMITTED INSTALLATION AS A WHOLE.....</b>	<b>23</b>
3.1 Noise and Vibration.....	23
3.2 Odour Conditions .....	23
3.3 Groundwater and Soil Protection.....	24
3.4 Waste Incineration .....	24
<b>4 CONDITIONS APPLYING TO THE ETHYLENE PLANT .....</b>	<b>25</b>
4.1 Air Emission Conditions .....	25
4.2 Water Environment and Sewer Discharge Conditions .....	25
4.3 Flaring and Venting Operations.....	27
4.4 Resource Utilisation .....	28
4.5 Waste Handling and Storage.....	28
4.6 Incident Prevention .....	28
4.7 Upgrade Requirements .....	28

## 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;

"DAC" means distilled aromatic condensate;

"C5+" means hydrocarbon with a molecular chain length with 5 or more carbon atoms;

"SHP" means super high pressure;

"HP" means high pressure;

"MP" means medium pressure;

"LP" means low pressure;

"Cracked Gas" means the gas exiting any of the 7 process furnaces;

"Flaring" means any emission of hydrocarbon from emission point numbers A16, A17, A18 and A19, where the flare is lit, as described in Table 4.1;

"Venting" means any emission of hydrocarbon from emission point numbers A16, A17, A18 and A19, where the flare is unlit and from emission point numbers A12, A13, A14 and A15, as described in Table 4.1;

"Major" used with reference to flaring means any emission of hydrocarbon equal to or greater than 5 tonnes/hour for a period of 30 minutes or more; and

"Major" used with reference to venting means any emission of hydrocarbon from emission point numbers A16, A17, A18 and A19, where the flare is unlit.

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 Permit.

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 gaseous and liquid fuels in eleven combustion appliances with an aggregated net thermal input of approximately 830 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 fuels in seven 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.

1.1.3.3 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.

1.1.3.4 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.

1.1.4 The Stationary Technical Unit comprises the following units: -

1.1.4.1 Seven process furnaces (Furnace K-F-1 to K-F-7) fired by fuel gas each with a net rated thermal input of 78 MW;

1.1.4.2 One gas turbine, fired by fuel gas with a net rated thermal input of 81 MW;

1.1.4.3 Three steam raising boilers (Z-SG-01 A, Z-SG-01 B & Z-SG-01 C), fired by fuel gas and liquid fuel each with a net rated thermal input of 67 MW;

1.1.4.4 A facility for the processing of natural gas liquids into ethane (plus lighter components), propane, butane and pentane (plus heavier components), more particularly described below as having or using:

(a) natural gas liquids reception facilities;

- (b) facilities for the fractionation of the received NGL into ethane (plus lighter components), propane, butane and pentane (plus heavier components) employing 3 modules;
- (c) ethane, propane and other product export facilities;
- (d) three process furnaces fired on gaseous fuels;
- (e) three molecular sieve regeneration heaters fired on gaseous fuels;
- (f) a flare system to provide emergency depressurisation protection;

1.1.4.5 Facilities for the reception, treatment and storage of ethane via a pipeline from the Shell Mossmorran Plant, more particularly described below as having or using:

- (a) valves to provide isolation of the ethane pipeline from the Shell Mossmorran Plant to the Permitted Installation;
- (b) a connection to the flare systems to provide emergency depressurisation of the pipeline (described in Paragraph 1.1.4.15);
- (c) a metering system and interconnecting pipe work, to facilitate fiscal metering of ethane received by the Permitted Installation;
- (d) a system for the removal of carbon dioxide and hydrogen sulphide from the ethane feed employing facilities consisting of:
  - (i) a separation vessel to separate liquids and gases within the feed gas;
  - (ii) automatic analysers for the determination of carbon dioxide levels;
  - (iii) a regenerative absorption column to allow the simultaneous removal of carbon dioxide and hydrogen sulphide through contact with Sulphinol, producing a gas stream of less than 100ppm carbon dioxide and 25ppm hydrogen sulphide;
  - (iv) steam stripping of the spent Sulphinol to remove the carbon dioxide and hydrogen sulphide, with the resultant foul gas stream sent to two of the three boilers (described in paragraph 1.1.4.3) or vented to atmosphere;
- (e) a system for the storage of ethane, more particularly described below;
  - (i) a liquefaction train where the treated ethane is dried, filtered, and liquefied;
  - (ii) storage of liquid ethane in a double containment, insulated tank with a storage capacity of approximately 10,000 m<sup>3</sup> and fitted with level alarms;
  - (iii) a re-circulation arrangement where ethane vapour lost from storage is compressed, condensed and cooled in the quench

tower (described in Paragraph 1.1.4.8(a)) before being passed to the cracking furnaces (described in Paragraph 1.1.4.1);

- (iv) a vaporisation train where liquid ethane feed from storage is vaporised before being passed to the process furnaces (described Paragraph 1.1.4.1);

1.1.4.6 Facilities for the reception and processing of propane via pipeline from the Shell Mossmorran Plant, more particularly described below as having or using:

- (a) valves to provide isolation of the propane pipeline from the Shell Mossmorran Plant to the Permitted Installation;
- (b) a connection to the flare and vent systems to provide emergency depressurisation of the pipeline (described in Paragraph 1.1.4.15);
- (c) a metering system and interconnecting pipe work, to facilitate fiscal metering of propane received by the Permitted Installation;
- (d) a vaporisation train where liquid propane is vaporised before being passed to the process furnaces (described in Paragraph 1.1.4.1);

1.1.4.7 Facilities for the cracking of ethane and propane into ethylene, more particularly described below as having or using:

- (a) an arrangement to allow the mixing of the ethane and propane feed;
- (b) an arrangement to allow the mixing of the ethane feed with ethane recycled from both the ethylene and secondary de-ethaniser fractionation columns (as described in Paragraph 1.1.4.9(e) and 1.1.4.9(f) respectively);
- (c) an arrangement for the removal and dosing of a side stream of the incoming feed with a sulphur compound (to prolong the life of the tubes within radiant section of the furnaces) before being returned to the main feed;
- (d) a splitter arrangement to allow the controlled distribution of the combined feed stream the seven process furnaces (as described in Paragraph 1.1.4.1)
- (e) seven process furnaces (Furnace K-F-1 to K-F-7) (as described in Paragraph 1.1.4.1) each consisting of;
  - (i) a heat exchange system to allow the pre-heating of the combined feed and mixing with steam to reduce coking rates and increase ethylene yield;
  - (ii) further heating and ethane cracking to ethylene in the radiant section of the furnace;
- (f) rapid cooling of the produced ethylene stream in the primary transfer line exchangers (TLE's) through the generation of SHP steam in order to stop the cracking reaction;



- (g) an arrangement to allow the recombination of the cracked gas streams from the process furnaces and then further cooling in the secondary transfer line exchangers (TLE's);
- (h) a system to allow each of the furnaces to be taken off line and operated in decoking mode. In this mode dilution steam is passed through the coke knock out drum before air is introduced to burn off carbon deposits;
- (i) a ducting arrangement to allow the gas turbine (as described in Paragraph 1.1.4.2) exhaust gas to be used as the primary combustion air for six of the seven furnaces (Furnace K-F-1 to K-F-6);
- (j) a connection to the flare system to provide both controlled and emergency depressurisation of the column (described in Paragraph 1.1.4.15).

1.1.4.8 Facilities for the separation and purification of the cracked gas feed, more particularly described below as having or using:

- (a) a quench tower where the condensables are separated out from the cracked gas and a quench water separator where the subsequent liquid phase is separated into 3 layers:
  - (i) a heavier hydrocarbon tar layer, which settles at the bottom of the vessel and is removed from site;
  - (ii) a lighter hydrocarbon (DAC) layer, which is removed and passed to storage;
  - (iii) a water layer which is further cooled and recirculated for use within the quench tower;
- (b) a separator unit and a filter (coalescer) dispersed oil extractor unit to remove free hydrocarbon and suspended solids as well as dissolved hydrocarbons through LP steam stripping;
- (c) a five stage gas compressor (Q-C-51) served by a gas turbine (as described in Paragraph 1.1.4.2) supported by a steam driven turbine and including a series of knock out drums and heat exchange units;
- (d) a two stage counter-current scrubber for the removal of carbon dioxide and sulphur compounds from the cracked gas feed stream where the gas is first contacted with caustic and then water. Spent caustic and condensate are collected and passed to the caustic oxidation unit (as described in Paragraph 1.1.5.1);
- (e) three molecular sieve beds arranged in parallel to dry the cracked gas and operated with one bed on line, one bed regenerating and one bed on standby. Tail gas from the demethaniser overheads (as described in Paragraph 1.1.4.9(b)) is used as a carrier gas;

1.1.4.9 A facility for the chilling and fractionation of the cracked feed gas, more particularly described below as having or using:

- (a) a condensing train more particularly described below:
  - (i) a series of in line filters for the removal of entrained solids;
  - (ii) a heat exchange arrangement cooling the incoming cracked feed gas to promote the condensation of all components heavier than methane;
  - (iii) a series of four feed separator drums to separate and collect all components heavier than methane;
  - (iv) a hydrogen purification unit treating the overheads from feed drum 3;
  - (v) an arrangement to pass the liquid streams from all four feed drums to the de-methaniser column (as described in Paragraph 1.1.4.9(b));
- (b) a de-methaniser fractionation column employed to separate out heavier components into the liquid stream and concentrate methane and lighter components in the gas stream. The gas stream is then combined with the overheads from feed drum 4 and passed through an expander before finally being passed for use in the fuel gas system (as described in Paragraph 1.1.5.2);
- (c) a primary de-ethaniser fractionation column employed to separate out heavier components into the liquid stream and concentrate ethylene and ethane in the gas stream. The liquid bottoms are sent to the secondary de-ethaniser column;
- (d) an acetylene converter used to convert acetylene to ethylene, more particularly described below:
  - (i) an arrangement to allow the combination of the gas feed from the primary de-ethaniser and the hydrogen feed from the hydrogen purification unit (as described in Paragraph 1.1.4.9(a)(iv));
  - (ii) two parallel systems each comprising of a two bed catalytic acetylene converter to allow the hydrogenation of acetylene to ethylene and ethane with one system in operation while the other is being regenerated;
  - (iii) a knock out drum to remove any produced oil and molecular sieve to dry the produced gas;
- (e) an ethylene fractionation column employed to separate out ethane into the liquid stream and concentrate ethylene in the gas stream. The gas stream is passed on for export (as described in Paragraph 1.1.4.12 and 1.1.4.13) while the ethane is vaporised and recycled to the process furnaces (as described in Paragraph 1.1.4.1);

- (f) a secondary de-ethaniser fractionation column employed to separate out heavier components into the liquid stream and concentrate ethane in the gas stream. The gas stream is then recycled to the furnaces (as described in Paragraph 1.1.4.1) with the bottoms passed to the de-butaniser column;
  - (g) a de-butaniser fractionation column employed to separate out heavier components (C5+) into the liquid stream and concentrate butane in the gas stream. The gas stream is then recycled to the furnaces or passed to the fuel gas system (as described in paragraph 1.1.4.1 and 1.1.5.2 respectively). The liquid bottom stream (C5+) is passed to storage and then exported (as described in paragraph 1.1.4.14);
  - (h) a connection to the flare system (described in Paragraph 1.1.4.15) to provide both controlled and emergency depressurisation;
- 1.1.4.10 A closed, multistage compressor-driven refrigeration system utilising propane to provide refrigeration at 5°C, -20°C and -37°C;
- 1.1.4.11 A closed, three stage compressor-driven refrigeration system utilising ethylene to provide refrigeration at -55°C, -75°C and -101°C;
- 1.1.4.12 Facilities for the export of ethylene to the UK ethylene pipeline, more particularly described below as having or using:
- (a) valves to provide isolation of the pipeline connecting the Stationary Technical Unit to the UK ethylene pipeline;
  - (b) a connection to the flare system (described in Paragraph 1.1.4.15) to provide both controlled and emergency depressurisation;
  - (c) a metering system and interconnecting pipe work, to facilitate fiscal metering of ethylene from the Stationary Technical Unit;
- 1.1.4.13 Facilities for the export of ethylene to ExxonMobil/Shell at Braefoot Bay more particularly described below as having or using:
- (a) valves to provide isolation of the pipeline connecting the Stationary Technical Unit to Braefoot Bay;
  - (b) a connection to the flare system (described in Paragraph 1.1.4.15) to provide both controlled and emergency depressurisation;
  - (c) A metering system and interconnecting pipe work, to facilitate fiscal metering of ethylene from the Stationary Technical Unit;
- 1.1.4.14 Tanker loading facilities for the export of C5+, more particularly described below as having or using:
- (a) valves to provide isolation of the pipeline connecting the Stationary Technical Unit to tanker loading facility;
  - (b) a connection to the flare system (described in Paragraph 1.1.4.15) to provide both controlled and emergency depressurisation;

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

1.1.4.15 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 elevated Flare, consisting of:

- (i) a 100 meter tall flare stack;
- (ii) the flare has a total burning capacity of 1145 tonnes per hour and a smokeless capacity of 200 tonnes (hydrocarbon) per hour;
- (iii) the flare employs fuel gas for pilot lights, water filled seal drums, nitrogen gas for purging and steam injection at differing pressures depending on flare rate;

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

1.1.5.1 A facility for the oxidation and neutralisation of spent caustic, more particularly described below as having or using:

- (a) a coalescer unit for the separation of hydrocarbon from the caustic stream;
- (b) a system for the washing of the hydrocarbon stream with water and the collection of the resultant hydrocarbon;
- (c) a nitrogen-blanketed storage vessel for the storage of the caustic stream;
- (d) three heated, continuously stirred reactors arranged in series where sulphide is oxidised to thio-sulphate or sulphate through the addition of air;
- (e) a heat exchange arrangement to cool the resultant caustic stream before it is passed for neutralisation to the caustic neutralisation sump (as described in Paragraph 1.1.5.10(d)).

1.1.5.2 Facilities for the collection and distribution of the following components for use as fuel throughout the Permitted Installation:

- (a) process off gas;
- (b) methane gas;
- (c) ethane gas;
- (d) propane gas and liquid; and

(e) Distilled Aromatic Condensate

- 1.1.5.3 A facility for the production of all installation air requirements (including instrument air), where atmospheric air is compressed by two of three compressors before being passed through one of two absorber towers to remove any free or residual water;
- 1.1.5.4 A facility for the supply of Nitrogen gas to the Stationary Technical Unit, more particularly described below as having or using:
  - (a) the cryogenic storage of liquid Nitrogen, consisting of:
    - (i) storage of nitrogen in two liquid storage tanks each with a storage capacity of 40 m<sup>3</sup>;
    - (ii) two associated heaters employed for vaporisation of the liquid nitrogen and heating the gas stream when required; and
  - (b) a pressure swing adsorption unit.
- 1.1.5.5 Facilities for the supply, collection, distribution and handling of all grades of steam throughout the Permitted Installation, more particularly described below as having or using:
  - (a) steam raising plant consisting of three steam raising boilers (as described in paragraph 1.1.4.3) and seven furnaces (as described in Paragraph 1.1.4.1);
  - (b) an ion exchange demineralisation plant to treat incoming water to a level suitable for raising steam including facilities for the regeneration of the ion exchange beds using sulphuric acid and sodium hydroxide;
  - (c) a super high pressure header system transporting super high pressure steam (84 barg and 480°C);
  - (d) a high pressure header system transporting high pressure steam (40 barg and 380°C);
  - (e) a medium pressure header system transporting medium pressure steam (14.5 barg and 280°C);
  - (f) a low pressure header system transporting low pressure steam (3.7 barg and 200°C);
  - (g) systems to allow rapid pressure let down and de-superheating in the event of a system upset;
- 1.1.5.6 Facilities for the collection, distribution and handling of condensate, more particularly described below as having or using:
  - (a) a system to allow the flashing of medium pressure condensate to low pressure steam;

- (b) a carbon filter unit to remove hydrocarbons from low pressure condensate where hydrocarbon pressure is greater than the condensate pressure; and
- (c) condensate polishing units where specific condensate streams are directed for the removal of dissolved products of corrosion.

1.1.5.7 Storage of:

- (a) raw materials;
- (b) wastes prior to disposal from site.

1.1.5.8 Fire water system consisting of:

- (a) a fire and gas detection and alarm system;
- (b) a 17,000 m<sup>3</sup> fire water pond;
- (c) two electrical and one diesel driven fire water pumps as well as a fire water ring main supplying hydrants, sprinklers and deluge systems.
- (d) storage of diesel in a bunded day tank with a storage capacity of 1.1m<sup>3</sup>;
- (e) storage of fire fighting foam stored in a bunded area.

1.1.5.9 Emergency power generation consisting of:

- (a) a diesel-fuelled generator capable of supplying 0.5MW, sufficient for supplying the essential electrical requirements of the installation;
- (b) storage of red diesel in a bunded day tank with a storage capacity of 1.1m<sup>3</sup>;

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

- (a) a Contaminated Storm drainage system that collects surface water run-off from process areas and blow down water directing the combined flow to a modified American Petroleum Institute (API) separator. The water from the API is then passed to the fire water pond, which overflows by gravity to the rain water pond and then to a pumping chamber before finally being discharged through a "T" distributor to the Firth of Forth. Oil from the API is passed to the CPI serving the oily water drainage system (described in Paragraph 1.1.5.10(b)) on a batch basis;
- (b) an Oily Water drainage system that collects contaminated water from the process areas and oil discharge from the API separator (described in Paragraph 1.1.5.10(a)) directing the combined flow to a Corrugated Plate Interceptor (CPI). The water from the CPI is then passed to the neutralisation chamber (described in Paragraph 1.1.5.10(d)) and then to a pumping chamber before finally being discharged through a "T" distributor to the Firth of Forth. Oil from the CPI is passed to an oil sump before being removed from site;

- (c) a by-pass drainage system that collects non-oil containing effluent from the cooling tower, demineralisation plant and boiler blow down directing the combined flow directly to the neutralisation chamber (described in Paragraph 1.1.5.10(d)) and then to a pumping chamber before finally being discharged through a "T" distributor to the Firth of Forth;
- (d) a neutralisation chamber where the effluent flows described above are combined and then subjected to a series of neutralisation reactions to control pH before being passed to a pumping chamber before finally being discharged through a "T" distributor to the Firth of Forth;
- (e) an effluent treatment pit where the effluent from the spent caustic oxidation unit is subjected to a series of neutralisation reactions before being passed to the CPI (described in Paragraph 1.1.5.10(b));

1.1.5.11 Directly Associated Activities associated with the processing of natural gas liquids into ethane (plus lighter components), propane, butane and pentane (plus heavier components), more particularly described below as having or using:

- (a) storage for propane, butane and gasoline product;
- (b) systems for the supply of utilities including:
  - (i) collection and distribution of fuel;
  - (ii) nitrogen;
  - (iii) instrument air;
  - (iv) hot oil;
  - (v) condensate;
- (c) storage of raw materials and wastes;
- (d) a system for the detection and suppression of fires;
- (e) a system for the supply of power in an emergency;
- (f) 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 1.1.4.3 and 1.1.4.5 to 1.1.4.15, where the activities described in Paragraphs 1.1.3.1 and 1.1.3.3 are carried out, together with the Directly Associated Activities described in Paragraphs 1.1.5.1 to 1.1.5.10. 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 Paragraphs 1.1.3.1 and 1.1.3.3 and the Directly Associated Activities described in Paragraphs 1.1.5.1 to 1.1.5.10 shall be known together as the Permitted Activities.



## **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 31<sup>st</sup> 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 31<sup>st</sup> 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 31<sup>st</sup> 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 2009
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 August 2008
Odour assessment report	3.2.2 & 3.2.3	At least every 4 years	31 March 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 1 month of the end of every calendar year	31 January 2008
Mass and composition emission to air report	4.1.5	Annually within 1 month of the end of every calendar year	31 January 2008

Water emission report	4.2.5	Annually within 1 month of the end of every calendar year	31 January 2008
Reviewed Sampling Plan report	4.2.6	Annually by the 1 <sup>st</sup> December each year	1 December 2008
Water overflow emission report	4.2.8	Annually within 1 month of the end of every calendar year	31 January 2008
Flaring and venting events	4.3.1	Annually within 1 month of the end of every calendar year	31 January 2008
Planned flaring and venting notification	4.3.3	At least 7 days before the planned flaring	Not applicable
Flare or vent 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	31 January 2009
Assessment of integrity of drainage system	4.7.1	31 December 2008	Not applicable
BAT assessment on the integrity and adequacy of bunding	4.7.2	31 December 2008	Not applicable
BAT assessment of emissions to atmosphere from the installation including those from flares and 1,3-butadiene	4.7.3	31 August 2008	Not applicable
Demonstration and compliance with new emission limit values for boilers	4.7.4	1 January 2008	Not applicable
Calculation method for ELV specified in Condition 4.7.5	4.7.5	1 January 2008	Not applicable
BAT assessment on raw material selection	4.7.6	31 May 2009	Not applicable
BAT assessment on water minimisation	4.7.7	31 May 2009	Not applicable
BAT assessment of non major accident hazards	4.7.8	31 May 2009	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
Ethane	Tonnes and MWhr
Propane	Tonnes and MWhr
Natural Gas (imported from national grid)	Tonnes and MWhr
Total quantity of hydrocarbons lost through fugitive emissions.	Tonnes and MWhr
Fuel consumed (by type as process gas, methane gas, ethane, propane, propane and distilled aromatic condensate)	Tonnes and MWhr
Ethylene exported (by destination)	Tonnes and MWhr
C5+ exported (by destination)	Tonnes and MWhr
Electricity	MWhr
Diesel	m <sup>3</sup> and MWhr
Sulphuric Acid	Tonnes
Caustic Soda	Tonnes
Lube Oil	Tonnes
Water additives and scavengers (by type)	Tonnes
Sulphur feed additives (by type)	Tonnes
Corrosion Inhibitors & anti-foulants (by type)	Tonnes
Biocides (by type)	Tonnes
Sulphinol	Tonnes
Flushing medium (compressors & exchangers)	Tonnes
Methanol	Tonnes
Nitrogen (Bought in / Produced)	Tonnes
Mono-ethylene Glycol	Tonnes
Water	m <sup>3</sup>
Steam (used and exported)	Tonnes and MWhr
Molecular sieve bed material (by type)	Tonnes
Fire Fighting Foam (by type)	m <sup>3</sup>



### **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 Notwithstanding 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 August 2008.
- 3.1.3 The Operator shall by 31 August 2008 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 methods ("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.
- 3.2.2 Subject to Condition 3.2.3, at least every 4 years, the Operator shall carry out a systematic assessment of odour emissions associated with the Permitted Activities, the purpose of which shall be to identify methods of reducing odour emissions and their impact. Each assessment shall be recorded and reported to SEPA.
- 3.2.3 Notwithstanding Condition 3.2.2 the first systematic assessment of odour emissions required under Condition 3.2.2 shall be carried out by 31 March 2009.
- 3.2.4 The Operator shall by 31 March 2009 produce an odour management plan which shall specify the methods to be implemented for the purposes of reducing odour emissions associated with the Permitted Activities in accordance with the findings of the first assessment required under Condition 3.2.2 above and estimated dates for implementation of those methods ("the Odour Management Plan"). The Odour 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 3.2.2 above.

- 3.2.5 The Odour Management Plan and all actions taken in accordance with the Odour Management Plan shall be recorded.

### 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)
BTEX
4 Methyl Phenol

### 3.4 Waste Incineration

- 3.4.1 The Operator shall not burn waste (as defined in Article 3 (1) of the Council Directive 2000/76/EC on the incineration of waste) at the Permitted installation.

#### **4 CONDITIONS APPLYING TO THE ETHYLENE PLANT**

##### **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 designation and company name and post 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 No emission shall be made from emission point number W02, as described in Table 4.5, except when:
  - 4.2.7.1 The recycle pump to the rain water pond or water storage fails; or
  - 4.2.7.2 Prolonged rainfall causes or is likely to cause the capacity of the discharge pumps or rainwater storage pond be exceeded; or
  - 4.2.7.3 In the event of an emergency requiring the pond to overflow;
- 4.2.8 Without prejudice to Condition 4.2.7 in the event that any emission is made from emission point number W02, as described in Table 4.5, the following information shall be recorded and reported:
  - 4.2.8.1 the dates and times any emission so made started and stopped;
  - 4.2.8.2 the reason for the emission;
  - 4.2.8.3 details of any action taken to minimise both the volume and impact of any emission;

### **4.3 Flaring and Venting Operations**

- 4.3.1 All flaring and venting events shall be recorded and reported to SEPA. The record shall contain:
  - 4.3.1.1 The date, time and duration of each flaring or venting event;
  - 4.3.1.2 The flare or vent employed;
  - 4.3.1.3 An estimate of the quantity of hydrocarbons flared or vented;
  - 4.3.1.4 The reason for the flaring or venting 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 or venting event; and
  - 4.3.1.7 Actions taken to prevent reoccurrence of the flaring or venting 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 periods greater than 15 minutes shall be treated as an Incident.
- 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;
  - 4.3.3.3 An estimate of the date, time and duration that the major flaring will take place over.
- 4.3.4 Any Major flaring events not notified under Condition 4.3.3 shall be recorded and reported in terms of Conditions 2.4.1 through to and including 2.4.6.
- 4.3.5 Any Major flaring event shall be recorded and reported in terms of Conditions 2.4.1 through to and including 2.4.6.
- 4.3.6 SEPA shall be notified in writing when any flare or vent is to be taken out of service. The notification shall be given at least 24 hours before the flare or vent is taken out of service and shall include:
  - 4.3.6.1 The reason why the flare or vent is out of service;
  - 4.3.6.2 An estimate of the time that the flare or vent will be out of service; and
  - 4.3.6.3 A description of how flaring or venting operations are to be managed during the period when the flare is out of service.
- 4.3.7 Where all flares are to be taken out of service or are unavailable for any reason, a temporary flare shall be employed. The temporary flare shall have a maximum emission capacity of 5 tonnes per hour of hydrocarbon vapour

and shall have a release point of at least 11 metres above ground level. The temporary flare shall be provided with an air blower to assist combustion and reduce formation of black smoke.

- 4.3.8 Continuous monitoring of the performance of all flare stacks shall be provided in the control room, by colour television monitor.
- 4.3.9 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 1 month.
- 4.3.10 Flaring from the installation shall take place preferentially on the Ground Flares.
- 4.3.11 Where the Ground Flares are not employed the reason for this should 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.

#### **4.5 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 31 December 2008 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 2.8.1. 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 December 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 August 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 and shall account for the potential emissions of 1, 3-butadiene. 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.
- 4.7.4 By 1 January 2008 the operator shall take all necessary measures to demonstrate and ensure that the emissions to air specified in Table 4.1 in relation to emission point numbers A08, A09 and A10 do not exceed the limits for the parameters specified in Table 4.11 in relation to emission point numbers A08, A09 and A10 respectively and as calculated in accordance with Condition 4.7.5.
- 4.7.5 Where different fuels, or fuel mixtures are used, the relevant emission limit value for the period of operation on each fuel type or fuel mixture, shall be a fuel-weighted average which shall be calculated by multiplying the emission limit value for the fuel type specified in Table 4.11 by the thermal input delivered by that fuel type divided by the sum of the thermal inputs delivered by all fuels and then by aggregating each of the fuel-weighted limit values.
- 4.7.6 By the 31 May 2009 the Operator shall carryout a systematic assessment of all raw materials utilised at the installation. The purpose of the assessment shall be to apply the environmental and personnel safety evaluation procedure to all existing raw materials to ensure that they pose no unacceptable risk to the environment or human health and shall be to ensure that Best Available Techniques are being employed. The assessment shall be recorded and reported to SEPA, shall identify alternative materials considered and shall present justification for the selection of material to be used at the Permitted Installation as a result of the assessment together with the proposed timescale where any material is to be replaced.
- 4.7.7 By the 31 May 2009 the Operator shall carryout a systematic assessment of water use at the Permitted Installation. The purpose of the assessment shall be to ensure that all opportunities for water reuse and minimisation have been identified 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.
- 4.7.8 By the 31 May 2009 the Operator shall carryout a systematic assessment of the non major accident hazards presented at the Permitted Installation. The

purpose of the assessment shall be to ensure that all potential non major accident hazards have been identified and characterised, shall be to ensure that all conclusions presented in the application remain valid 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	Furnace No. 1 (K-F-1)	Furnace No. 2 (K-F-2)	Furnace No. 3 (K-F-3)	Furnace No. 4 (K-F-4)	Furnace No. 5 (K-F-5)	Furnace No. 6 (K-F-6)	Furnace No. 7 (K-F-7)
	Stack height/diameter (m)	61/2	61/2	61/2	61/2	61/2	61/2	61/2
	Location on Site Plan	A01	A02	A03	A04	A05	A06	A07
Monitoring Details	NGR	NT 18585 89849	NT 18565 89928	NT 18573 89844	NT 18549 89924	NT 18558 89839	NT 18533 89916	NT 18539 89834
	Type of Monitoring	SS	SS	SS	SS	SS	SS	SS
	Sampling Location	Furnace Exhaust	Furnace Exhaust	Furnace Exhaust	Furnace Exhaust	Furnace Exhaust	Furnace Exhaust	Furnace Exhaust
	Limits for Parameters from Emission Source	Oxides of Nitrogen mg/m <sup>3</sup>	350	350	350	350	350	350
Oxides of Sulphur mg/m <sup>3</sup>		-	-	-	-	-	-	-
Carbon Monoxide mg/m <sup>3</sup>		-	-	-	-	-	-	-
Maximum oxygen in discharged combustion gas % oxygen v/v		7	7	7	7	7	7	7
Smoke		Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1

Table 4.1 - Emissions to Air ELVs (Continued)

Source of Emission	Emission point number	A08	A09	A10	A11	A12	A13	A14
	Emission source	Boiler A (Z-SG-01 A)	Boiler B (Z-SG-01 B)	Boiler C (Z-SG-01 C)	Gas Turbine Dump Stack	Caustic Oxidiser Vent	Dilution Steam Vent	Sulphinol Unit Vent
	Stack height/diameter (m)	25/1.6	25/1.6	25/1.6	30/3	12/0.1	20/1.8	50/0.2
	Location on Site Plan	A08	A09	A10	A11	A12	A13	A14
Monitoring Details	NGR	NT 18567 90050	NT 18563 90062	NT 18562 90072	NT 18596 89948	NT 18644 690110	NT 186 899	NT 188 900
	Type of Monitoring	SS	SS	SS	SS	SS	SS	SS
Limits for Parameters from Emission Source	Sampling Location	Boiler Exhaust	Boiler Exhaust	Boiler Exhaust	Vent Outlet	Vent Outlet	Vent Outlet	Vent Outlet
	Oxides of Nitrogen mg/m <sup>3</sup>	350	350	350	550	-	-	-
	Oxides of Sulphur mg/m <sup>3</sup>	-	-	-	-	-	-	-
	Dust mg/m <sup>3</sup>	-	-	-	-	-	-	-
	Carbon Monoxide mg/m <sup>3</sup>	200	200	200	-	-	-	-
	Maximum oxygen in discharged combustion gas % oxygen v/v	6	6	6	-	-	-	-
	Smoke	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	-	-	-	-

Table 4.1 - Emissions to Air ELVs (Continued)

Source of Emission	Emission point number	A08	A09	A10	A11	A12	A13	A14
	Emission source	Boiler A (Z-SG-01 A)	Boiler B (Z-SG-01 B)	Boiler C (Z-SG-01 C)	Gas Turbine Dump Stack	Caustic Oxidiser Vent	Dilution Steam Vent	Sulphinol Unit Vent
	Stack height/diameter (m)	25/1.6	25/1.6	25/1.6	30/3	12/0.1	20/1.8	50/0.2
	Location on Site Plan	A08	A09	A10	A11	A12	A13	A14
Monitoring Details	NGR	NT 18567 90050	NT 18563 90062	NT 18562 90072	NT 18596 89948	NT 18644 690110	NT 186 899	NT 188 900
	Type of Monitoring Sampling Location	SS Boiler Exhaust	SS Boiler Exhaust	SS Boiler Exhaust	SS Vent Outlet	SS Vent Outlet	SS Vent Outlet	SS Vent Outlet
Limits for Parameters from Emission Source	Oxides of Nitrogen mg/m <sup>3</sup>	350	350	350	550	-	-	-
	Oxides of Sulphur mg/m <sup>3</sup>	-	-	-	-	-	-	-
	Dust mg/m <sup>3</sup>	-	-	-	-	-	-	-
	Carbon Monoxide mg/m <sup>3</sup>	200	200	200	-	-	-	-
	Maximum oxygen in discharged combustion gas % oxygen v/v	6	6	6	-	-	-	-
Smoke	Smoke	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	-	-	-



Table 4.1 - Emissions to Air ELVs (Continued)

Source of Emission	Emission point number	A15	A16	A17	A18	A19
	Emission source	Acetylene Converter Regeneration Vent	Elevated Flare	Ground Flare A (A 7005)	Ground Flare B (B 7005)	Temporary Flare (Condition 4.3.6)
	Stack height/diameter (m)	22/0.25	100/1.4	41.1/1.9	60/0.82	11 / N/A
	Location on Site Plan	A15	A16	A17	A18	A19
Monitoring Details	NGR	NT 188 899	NT 187 901	NT 189 903	NT 190 903	N/A
	Type of Monitoring	SS	SS	SS	SS	SS
Limits for Parameters from Emission Source	Sampling Location	Vent Outlet	Flare Exhaust	Flare Exhaust	Flare Exhaust	Flare Exhaust
	Oxides of Nitrogen mg/m <sup>3</sup>	-	-	-	-	-
	Oxides of Sulphur mg/m <sup>3</sup>	-	-	-	-	-
	Carbon Monoxide mg/m <sup>3</sup>	-	-	-	-	-
	Maximum oxygen in discharged combustion gas % oxygen v/v	-	-	-	-	-
	Smoke	-	Ringelmann Shade 2 > 15mins	Ringelmann Shade 2 > 15mins	Ringelmann Shade 2 > 15mins	Ringelmann Shade 2 > 15mins



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
Temperature	A01 to A10 inclusive	Continuous online measurement	Continuous	Operational
Operating Rate	A01 to A10 inclusive	Continuous online measurement	Continuous	Operational
Type of fuel being burned	A01 to A10 inclusive	Continuous online measurement	Continuous	Operational
Oxygen %	A01 to A11 inclusive	Continuous online measurement	Continuous	Operational

Table 4.3 - Reference Conditions

Emission Point Number	Reference Condition
A01 to A10 inclusive	Dry, 273K, 101.3kPa, Oxygen 3%v/v
A11	Dry, 273K, 101.3kPa, Oxygen 15%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 A11 inclusive, A16, A17, A18 & A19	As Agreed in writing with SEPA	Tonnes per month
Oxides of Sulphur	A08 to A11 inclusive		Tonnes per month
Carbon Dioxide	A01 to A11 inclusive, A14, A16, A17, A18 & A19		Tonnes per month
H <sub>2</sub> S	A14		Tonnes per month
Total Organic Carbon	A11, A13, A16, A17, A18 & A19		Tonnes per month

Table 4.5 - Emissions to Water Environment ELVs

<b>Source of Emission</b>	<b>Emission number point</b>	W01	W02
	<b>Source of Emission</b>	Effluent Treatment Pit Discharge	Overflow
	<b>Destination</b>	Firth of Forth	Dronachy Burn
	<b>Emission location NGR</b>	NT 1857 9018	NT 187 903
	<b>Emission location on Figure 4.2</b>	W01	W02
	<b>Sampling location</b>	Discharge Outlet	Overflow Outlet
<b>Limits For Parameters From Emission Source</b>	<b>pH</b>	5 – 9	5 – 9
	<b>COD kg/day</b>	CL 1250 CU 2250	-
	<b>Total Petroleum Hydrocarbons (Oil In Water) kg/day</b>	CL 60 CU 100	None Visible
	<b>Flowrate m<sup>3</sup>/hour</b>	A 470	-
	<b>Temperature °C</b>	A 40	-
	<b>BOD mg/l</b>	-	-
	<b>TOD mg/l</b>	-	-
	<b>Copper mg/l</b>	-	-
	<b>Mercury mg/l</b>	-	-
	<b>Cadmium mg/l</b>	-	-
	<b>BTEX</b>	-	-
	<b>PAH</b>	-	-



Table 4.5 - Emissions to Water Environment ELVs

<b>Source of Emission</b>	<b>Emission number point</b>	W01	W02
	<b>Source of Emission</b>	Effluent Treatment Pit Discharge	Overflow
	<b>Destination</b>	Firth of Forth	Dronachy Burn
	<b>Emission location NGR</b>	NT 1857 9018	NT 187 903
	<b>Emission location on Figure 4.2</b>	W01	W02
	<b>Sampling location</b>	Discharge Outlet	Overflow Outlet
<b>Limits For Parameters From Emission Source</b>	<b>pH</b>	5 – 9	5 – 9
	<b>COD kg/day</b>	CL 1250 CU 2250	-
	<b>Total Petroleum Hydrocarbons (Oil in Water) kg/day</b>	CL 60 CU 100	None Visible
	<b>Flowrate m<sup>3</sup>/hour</b>	A 470	-
	<b>Temperature °C</b>	A 40	-
	<b>BOD mg/l</b>	-	-
	<b>TOD mg/l</b>	-	-
	<b>Copper mg/l</b>	-	-
	<b>Mercury mg/l</b>	-	-
	<b>Cadmium mg/l</b>	-	-
	<b>BTEX</b>	-	-
	<b>PAH</b>	-	-



Table 4.6 - Emissions to Water Environment Monitoring Requirements

Parameter	Emission (Number(s))	Test Method	Reporting Format	Sampling/ Measurement Facility	Instantaneous	Composite	
					Frequency	Frequency	Sample Basis
pH	W01 & W02	In-house analysis to standard: ASTM D 1293	pH Units	W01	-	Daily	Continuous
COD kg/day	W01	In-house analysis to standard: Hach to method 10067 USEPA	kg/day	W01	-	Twice per Week	Continuous
Total Petroleum Hydrocarbons (Oil in Water)	W01	In-house analysis to standard: Modified MHSO Blue Book method to IP426.97 and EPA 413.2	kg/day	W01	Daily	Twice per Week	Continuous
	W02	As agreed in writing with SEPA	As agreed in writing with SEPA	W02	Daily on Overflow	-	-
Flowrate	W01	Continuous flow meter with visual display	m <sup>3</sup> /hour	W01	Continuous Flow Indication	Daily	Continuous
Temperature	W01	In-house analysis	°C	W01	Continuous Flow Indication	Daily	Continuous
TOD	W02	In-house analysis to standard: ASTM D3250	mg/l	W02	Daily on Overflow	-	-
Copper	W01	In-house analysis to standard: Hach to method 8506 USEPA	mg/l	W01	-	Weekly	Continuous
Mercury	W01	In-house analysis to standard: ISO 5961:1994	mg/l	W01	-	Monthly	Continuous
Cadmium	W01	In-house analysis to standard: ISO 5961:1994	mg/l	W01	-	Monthly	Continuous
BTEX	W01	In-house analysis to standard: AN15	mg/l	W01	-	Monthly	Continuous
PAH	W01	In-house analysis to standard: AN19A/1	mg/l	W01	-	Monthly	Continuous



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
<b>Energy consumed</b>	<p>The sum of:</p> <ul style="list-style-type: none"> <li>○ The thermal energy of fuel gas consumed;</li> <li>○ The thermal energy of fuel (National Grid) gas imported;</li> <li>○ The thermal energy of the diesel fuel consumed;</li> <li>○ The thermal energy of the hydrocarbons flared from the permitted installation, including flare pilot;</li> <li>○ The thermal energy of hydrocarbons vented;</li> <li>○ Electrical energy imported.</li> </ul>
<b>Energy exported</b>	<p>The sum of the following thermal energy:</p> <ul style="list-style-type: none"> <li>○ Ethylene and C5+exported; and</li> <li>○ Steam exported.</li> </ul>
<b>Energy wasted</b>	<p>The sum of the following thermal energy:</p> <ul style="list-style-type: none"> <li>○ Hydrocarbons flared from the permitted installation (does not include pilot gas); and</li> <li>○ Hydrocarbons vented.</li> </ul>



Table 4.9- Waste Handling and Storage

Description of Waste	Location of Storage	Method of Storage	Maximum Permitted Quantity (m <sup>3</sup> )	Storage Conditions
Scrap metal	Waste Yard / Onsite	Skips	20	Skips or containers on an area of hardstanding with kerbing and fall to prevent run-off
Wood	Waste Yard / Onsite	Skips	5	
Plastics	Waste Yard / Onsite	Skips	5	
Cardboard	Waste Yard / Onsite	Skips	5	
Air Filters	Waste Yard / Onsite	Skips Drums	5	
Aerosol Cans	Waste Yard / Onsite	IBC Drums	5	
Batteries	Waste Yard / Onsite	Drums Pallets	2	
Paint Sludges / Thinners / Rags / Paint tins with residues	Waste Yard / Onsite	Skips Drums Pallets	5	
Paint tins/cans	Waste Yard / Onsite	Skips Drums	5	
General waste	Waste Yard / Onsite	Skips	15	
Oily waste	Waste Yard / Onsite	Skips Drums	10	
Chemical/ hazardous waste	Waste Yard / Onsite	Tank Drums	300	
Fluorescent Tubes	Waste Yard / Onsite	Drums	2	
Insulation	Waste Yard / Onsite	Skips	10	
Carbon Coke	Waste Yard / Onsite	Skips	10	
Sulphinol	Waste Yard / Onsite	Tanks Drums	100	
Ion Exchange Resins	Waste Yard / Onsite	Euro Bag Skip Tanker	10	
Tar	Waste Yard / Onsite	Tank Tanker	100	
Soil/Sludge - Contaminated	Waste Yard / Onsite	Euro Bag Tank Tanker	50	
Soil/Sludge- Uncontaminated	Waste Yard / Onsite	Euro Bag Tank Waste Area	200	
Grit/Shot blast waste	Waste Yard / Onsite	Euro Bag	5	
Asbestos	Waste Yard / Onsite	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	Various	Tanks	30,000 litres	Totally enclosed and bunded
Sulphuric Acid	Store / Warehouse Onsite	G-TK-53 G-TK-72 G-TK-60 A & B 205 Litre Drums IBC	70 m <sup>3</sup>	Totally enclosed and bunded
Caustic Soda	Store / Warehouse Onsite	G-TK-73 205 Litre Drums G-TK-61 A & B IBC	300 m <sup>3</sup>	Totally enclosed and bunded
Water additives and scavengers (by type)	Store / Warehouse Onsite	205 Litre Drums IBC	4000 Litres	Totally enclosed and bunded
Sulphur feed additives (by type)	Store / Warehouse Onsite	ISO Tanks 205 Litre Drums IBC K-D-01	100 m <sup>3</sup>	Totally enclosed and bunded
Corrosion Inhibitors & anti-foulants (by type)	Store / Warehouse Onsite	205 Litre Drums IBC	3000 Litres	Totally enclosed and bunded
Biocides (by type)	Store / Warehouse Onsite	205 Litre Drums IBC	3000 Litres	Totally enclosed and bunded
Sulphinol	Store / Warehouse Onsite	205 Litre Drums IBC	400 m <sup>3</sup>	Totally enclosed and bunded
Flushing medium (compressors & exchangers)	Store / Warehouse	205 Litre Drums IBC	5000 Litres	Totally enclosed and bunded
Methanol	Store / Warehouse Onsite	205 Litre Drums IBC C-TK-51	2050 Litres	Totally enclosed and bunded
Nitrogen (Liquid)	G-D-10 A & B	2 Tanks	40 m <sup>3</sup>	Totally enclosed, double walled and bunded
DAC	G-D-80 G-TK-80 A & B	2 Tanks	400 m <sup>3</sup>	Totally enclosed, double walled and bunded
Lube oil and grease	Store / Warehouse Onsite	20 Litre Drums 25 Litre Drums 205 Litre Drums IBC	5000 Litres	Totally enclosed, double walled and bunded
Fire fighting foam	Store / Warehouse Onsite	Various	100 m <sup>3</sup>	Totally enclosed, double walled and bunded
Ethane	S-TK-01	Tank	10,000 m <sup>3</sup>	Totally enclosed, bunded, double contained and insulated



Table 4.11 - Emissions to Air ELVs for LCPD

Source of Emission	Emission point number	A08	A09	A10
	Emission source	Boiler A (Z-SG-01 A)	Boiler B (Z-SG-01 B)	Boiler C (Z-SG-01 C)
	Stack height/ diameter (m)	25/1.6	25/1.6	25/1.6
	Location on Site Plan	A08	A09	A10
	NGR	NT 18567 90050	NT 18563 90062	NT 18562 90072
	Type of Monitoring	SS	SS	SS
Monitoring Details	Sampling Location	Boiler Exhaust	Boiler Exhaust	Boiler Exhaust
Limits for Parameters from Emission Source	Oxides of Nitrogen mg/m <sup>3</sup>	450	450	450
	Gaseous Fuel	300	300	300
	Liquid Fuel	1700	1700	1700
	Gaseous Fuel	35	35	35
	Liquid Fuel	50	50	50
	Gaseous Fuel	5	5	5
	Carbon Monoxide mg/m <sup>3</sup>	200	200	200
	Maximum oxygen in discharged combustion gas % oxygen v/v	6	6	6
	Smoke	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1	Ringelmann Shade 2 > 30mins at Start Up then Ringelmann Shade 1



## **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  
Strathearn House  
Broxden Business Park  
Lamberkine Drive  
PERTH  
PH1 1RX

Tel No: 0800 80 70 60 and/or 01738 627989

Fax No: 01738 630997

Email address: [registryperth@sepa.org.uk](mailto:registryperth@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.