

Facility Information Summary

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|---------------------------|------------------------------------|
| AER Reporting Year | 2016 |
| Licence Register Number | W0081-04 |
| Name of site | Kilcullen Landfill Ltd |
| Site Location | Brownstown, Kilcullen, Co Kildare. |
| NACE Code | 1.5, 11, 13 & 3, 4, 9 |
| Class/Classes of Activity | 284865E, 211310N |

A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year **and an overview of compliance with your licence listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise.**

KLL operates the Kilcullen Landfill under Waste Licence Register Number W0081-04. KTK Landfill was granted a Waste Licence (W0081-01) by the Environmental Protection Agency (EPA) in April 1999. In July 2001, KTK Landfill submitted an application for a Review of Waste Licence W0081-01. An amended Licence, No. W0081-02 was granted by the Agency on 8 April 2002. In November 2004 an application for revision of Waste Licence W0081-02 was submitted. An amended Licence, No. W0081-03 was granted on 16 February 2006. This licence was replaced on the 25th of July 2011 by waste Licence W0081-04. In March 2014 the Waste Licence was transferred from KTK Landfill Ltd to Kilcullen Landfill Ltd.

Acceptance of waste material ceased in December 2011 and the site entered its closure, restoration and aftercare phase. During 2012, the final capping works were brought to practical completion. In 2015 final capping and topsoil/reseeding works were completed at the landfill. The facility is now managed in an aftercare capacity. The facility is a full containment landfill, which is designed to accept treated waste for final disposal. The landfill is now closed and fully capped. No waste for disposal was accepted on site in 2016.

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

Tomás Bingle
 Signature
 Group/Facility manager
 (or nominated, suitably qualified and experienced deputy)

26th May 2017
 Date

Answer all questions and complete all tables where relevant

Additional information

1 Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If **you do not have** licensed emissions and **do not complete a solvent management plan** (table A4 and A5) you do not need to complete the tables

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| Yes | Landfill gas monitoring was conducted at 14 monitoring well locations on a monthly basis during the reporting period and the results submitted to the Agency. Category 3 non-urgent incident reports were forwarded to the Agency not later than 24 hours after a landfill gas emission level value was breached. Potential Landfill Gas is monitored at the facility offices and buildings by an onsite continuous monitoring system. No measured landfill gas level in any of the facility buildings exceeded the above limits during 2016 |
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Periodic/Non-Continuous Monitoring

2 Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below

| | |
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| Yes | |
|-----|--|

3 Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist? [Basic air monitoring checklist](#) [AGN2](#)

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| Yes | |
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Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

| Emission reference no: | Parameter/ Substance | Frequency of Monitoring | ELV in licence or any revision thereof | Licence Compliance criteria | Measured value | Unit of measurement | Compliant with licence limit | Method of analysis | Annual mass load (kg) | Comments - reason for change in % mass load from previous year if applicable |
|------------------------|------------------------------------|-------------------------|--|-----------------------------|----------------|---------------------|------------------------------|-----------------------|-----------------------|--|
| Flare 1 | Nitrogen Oxides (Nox/NO2) | annual | 150 | SELECT | 81.68 | mg/m3 | yes | Chemiluminescence | 18.57 | |
| Flare 1 | Sulphur oxides (Sox/SO2) | annual | - | SELECT | 981.25 | mg/m3 | yes | NDIR Adsorption | 223.07 | |
| GE01 | Nitrogen oxides (NOx) | annual | 500 | SELECT | 440 | mg/m3 | yes | Chemiluminescence | 2173.63 | |
| GE01 | Carbon Monoxide (CO) | annual | 1,400 | SELECT | 1284 | mg/m3 | yes | NCIR By Horiba PG-250 | 6343.05 | |
| GE01 | TA Luft organic substances class 1 | annual | 75 | SELECT | <0.11 | mg/m3 | yes | Thermal Desorption | 0.00 | |
| GE01 | Sulphur dioxide (SO ₂) | annual | - | SELECT | 1113 | mg/m3 | yes | NDIR Absorption | 5498.30 | |
| | | | | | | | | | | |

Note 1: Volumetric flow shall be included as a reportable parameter

| | | | |
|------------------------------|------------------|------|------|
| AIR-summary template | Lic No: W0081-04 | Year | 2016 |
| Continuous Monitoring | | | |

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| <p>4 Does your site carry out continuous air emissions monitoring? If yes please review your continuous monitoring data and report the required fields below in Table A2 and compare it to its relevant Emission Limit Value (ELV)</p> | Yes | |
| <p>5 Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below</p> | No | |
| <p>6 Do you have a proactive service agreement for each piece of continuous monitoring equipment?</p> | Yes | |
| <p>7 Did your site experience any abatement system bypasses? If yes please detail them in table A3 below</p> | No | |

Table A2: Summary of average emissions -continuous monitoring

| Emission reference no: | Parameter/ Substance | ELV in licence or any revision thereof | Averaging Period | Compliance Criteria | Units of measurement | Annual Emission | Annual maximum | Monitoring Equipment downtime (hours) | Number of ELV exceedences in current reporting year | Comments |
|------------------------|----------------------|--|------------------|-----------------------------------|----------------------|-----------------|----------------|---------------------------------------|---|----------|
| Flare 1 | Carbon monoxide (CO) | 500 | Annual | All 30-minutes averages < 2 x ELV | mg/m3 | | | | | |
| | SELECT | | | | SELECT | | | | | |
| | SELECT | | | | SELECT | | | | | |
| | SELECT | | | | SELECT | | | | | |
| | SELECT | | | | SELECT | | | | | |

note 1: Volumetric flow shall be included as a reportable parameter.

Table A3: Abatement system bypass reporting table [Bypass protocol](#)

| Date* | Duration** (hours) | Location | Reason for bypass | Impact magnitude | Corrective action |
|-------|--------------------|----------|-------------------|------------------|-------------------|
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* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to [bypass protocol link](#)

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER)

Lic No:

W0081-04

Year

2016

Additional Information

Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If you **do not have** licensed emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections

Yes

Kilcullen Landfill operates two reverse osmosis treatment plants (RO-1 and RO-2) on-site which treat landfill leachate before discharging it to the Irish Water sewer. The treated leachate is referred to as permeate and the discharge limit is 150m3/day. Concentrate from the units is re-circulated within the waste mass, as per the agreement with the Agency. The Plant RO-2 was non-operational for the second round of monitoring completed in December 2016. 6,871 m3 discharged to the sewer in 2016.

Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections

Yes

The surface water monitoring was conducted bi-annually at the four monitoring locations specified in the Licence and reported to the Agency on a bi-annual basis. The sampling was carried out in accordance with internationally accepted techniques and control procedures, the analyses were completed by a laboratory using standard and internationally accepted procedures. The 2016 results are generally consistent with previous years of monitoring.

Table W1 Storm water monitoring

| Location reference | Location relative to site activities | PRTR Parameter | Licensed Parameter | Monitoring date | ELV or trigger level in licence or any revision thereof* | Licence Compliance criteria | Measured value | Unit of measurement | Compliant with licence | Comments |
|--------------------|--------------------------------------|----------------|-------------------------|-----------------|--|-----------------------------|----------------|---------------------|---|-------------|
| SW4 | onsite | SELECT | Boron | 2016 Round 1 | 2,000 | N/A | 39 | ug/l | yes | |
| SW4 | onsite | SELECT | Cadmium | 2016 Round 1 | 5 | N/A | <0.5 | ug/l | yes | |
| SW4 | onsite | SELECT | Calcium | 2016 Round 1 | - | N/A | 113.6 | mg/l | yes | |
| SW4 | onsite | SELECT | Copper | 2016 Round 1 | 30 | N/A | <7 | ug/l | yes | |
| SW4 | onsite | SELECT | Iron | 2016 Round 1 | 1,000 | N/A | <20 | ug/l | yes | |
| SW4 | onsite | SELECT | Lead | 2016 Round 1 | 10 | N/A | <5 | ug/l | yes | |
| SW4 | onsite | SELECT | Magnesium | 2016 Round 1 | - | N/A | 8.8 | mg/l | yes | |
| SW4 | onsite | SELECT | Manganese | 2016 Round 1 | 300 | N/A | <2 | ug/l | yes | |
| SW4 | onsite | SELECT | Mercury | 2016 Round 1 | 1 | N/A | <1 | ug/l | yes | |
| SW4 | onsite | SELECT | Nickel | 2016 Round 1 | 50 | N/A | 2 | ug/l | yes | |
| SW4 | onsite | SELECT | Potassium | 2016 Round 1 | - | N/A | 1.5 | mg/l | yes | |
| SW4 | onsite | SELECT | Sodium | 2016 Round 1 | - | N/A | 17.7 | mg/l | yes | |
| SW4 | onsite | SELECT | Zinc | 2016 Round 1 | 100 | N/A | <3 | ug/l | yes | |
| SW4 | onsite | SELECT | Dissolved Phosphorus | 2016 Round 1 | - | N/A | <5 | ug/l | yes | |
| SW4 | onsite | SELECT | Total Chromium | 2016 Round 1 | 30 | N/A | <1.5 | ug/l | yes | |
| SW4 | onsite | SELECT | Chloride | 2016 Round 1 | 250 | N/A | 21.4 | mg/l | yes | |
| SW4 | onsite | SELECT | Nitrate (NO3) | 2016 Round 1 | 50 | N/A | 3.9 | mg/l | yes | |
| SW4 | onsite | SELECT | Nitrite (NO2) | 2016 Round 1 | 0 | N/A | <0.02 | mg/l | yes | |
| SW4 | onsite | SELECT | Ortho Phosphate | 2016 Round 1 | - | N/A | <0.06 | mg/l | yes | |
| SW4 | onsite | SELECT | Ammoniacal Nitrogen | 2016 Round 1 | 0.065 | N/A | 0.04 | mg/l | yes | |
| SW4 | onsite | SELECT | Total Alkalinity | 2016 Round 1 | - | N/A | 288 | mg/l | yes | |
| SW4 | onsite | SELECT | BOD | 2016 Round 1 | 1.5 | N/A | 2 | mg/l | no (if no please enter details in comments box) | Exceeds EQS |
| SW4 | onsite | SELECT | COD | 2016 Round 1 | - | N/A | 23 | mg/l | yes | |
| SW4 | onsite | SELECT | Electrical Conductivity | 2016 Round 1 | 1,000 | N/A | 604 | µS/cm | yes | |
| SW4 | onsite | SELECT | pH | 2016 Round 1 | < 6.0 >9.0 | N/A | 7.75 | pH units | yes | |
| SW4 | onsite | SELECT | TOC | 2016 Round 1 | - | N/A | <2 | mg/l | yes | |
| SW4 | onsite | SELECT | Total Suspended Solids | 2016 Round 1 | - | N/A | 12 | mg/l | yes | |
| SW4 | onsite | SELECT | Sulphate | 2016 Round 1 | - | N/A | - | mg/l | yes | |
| SW4 | onsite | SELECT | Dissolved Oxygen | 2016 Round 1 | - | N/A | - | mg/l | yes | |
| SW4 | onsite | SELECT | SVOCs except... | 2016 Round 1 | - | N/A | - | µg/l | yes | |
| SW4 | onsite | SELECT | 4-Methylphenol | 2016 Round 1 | - | N/A | - | µg/l | yes | |
| SW4 | onsite | SELECT | Phenol | 2016 Round 1 | 8 | N/A | - | µg/l | yes | |
| SW4 | onsite | SELECT | VOC's | 2016 Round 1 | - | N/A | - | µg/l | yes | |
| SW4 | onsite | SELECT | Total Coliforms | 2016 Round 1 | - | N/A | - | cfu/100ml | yes | |
| SW4 | onsite | SELECT | E-Coli | 2016 Round 1 | - | N/A | - | cfu/100ml | yes | |
| SW4 | onsite | SELECT | Boron | 2016 Round 2 | 2,000 | N/A | 25 | ug/l | yes | |
| SW4 | onsite | SELECT | Cadmium | 2016 Round 2 | 5 | N/A | <0.5 | ug/l | yes | |
| SW4 | onsite | SELECT | Calcium | 2016 Round 2 | - | N/A | 130.5 | mg/l | yes | |
| SW4 | onsite | SELECT | Copper | 2016 Round 2 | 30 | N/A | <7 | ug/l | yes | |
| SW4 | onsite | SELECT | Iron | 2016 Round 2 | 1,000 | N/A | 87 | ug/l | yes | |
| SW4 | onsite | SELECT | Lead | 2016 Round 2 | 10 | N/A | <5 | ug/l | yes | |
| SW4 | onsite | SELECT | Magnesium | 2016 Round 2 | - | N/A | 10.4 | mg/l | yes | |
| SW4 | onsite | SELECT | Manganese | 2016 Round 2 | 300 | N/A | 1352 | ug/l | no (if no please enter details in comments box) | Exceeds EQS |
| SW4 | onsite | SELECT | Mercury | 2016 Round 2 | 1 | N/A | <1 | ug/l | yes | |
| SW4 | onsite | SELECT | Nickel | 2016 Round 2 | 50 | N/A | <2 | ug/l | yes | |
| SW4 | onsite | SELECT | Potassium | 2016 Round 2 | - | N/A | 3.4 | mg/l | yes | |
| SW4 | onsite | SELECT | Sodium | 2016 Round 2 | - | N/A | 16.2 | mg/l | yes | |
| SW4 | onsite | SELECT | Zinc | 2016 Round 2 | 100 | N/A | <3 | ug/l | yes | |
| SW4 | onsite | SELECT | Dissolved Phosphorus | 2016 Round 2 | - | N/A | 167 | ug/l | yes | |
| SW4 | onsite | SELECT | Total Chromium | 2016 Round 2 | 30 | N/A | <1.5 | ug/l | yes | |
| SW4 | onsite | SELECT | Chloride | 2016 Round 2 | 250 | N/A | 23.8 | mg/l | yes | |
| SW4 | onsite | SELECT | Nitrate (NO3) | 2016 Round 2 | 50 | N/A | <0.2 | mg/l | yes | |
| SW4 | onsite | SELECT | Nitrite (NO2) | 2016 Round 2 | 0 | N/A | <0.02 | mg/l | yes | |
| SW4 | onsite | SELECT | Ortho Phosphate | 2016 Round 2 | - | N/A | <0.06 | mg/l | yes | |
| SW4 | onsite | SELECT | Ammoniacal Nitrogen | 2016 Round 2 | 0.065 | N/A | 0.1 | mg/l | no (if no please enter details in comments box) | Exceeds EQS |
| SW4 | onsite | SELECT | Total Alkalinity | 2016 Round 2 | - | N/A | 360 | mg/l | yes | |
| SW4 | onsite | SELECT | BOD | 2016 Round 2 | 1.5 | N/A | 5 | mg/l | no (if no please enter details in comments box) | Exceeds EQS |
| SW4 | onsite | SELECT | COD | 2016 Round 2 | - | N/A | 38 | mg/l | yes | |
| SW4 | onsite | SELECT | Electrical Conductivity | 2016 Round 2 | 1,000 | N/A | 861 | µS/cm | yes | |
| SW4 | onsite | SELECT | pH | 2016 Round 2 | < 6.0 >9.0 | N/A | 7.26 | pH units | yes | |
| SW4 | onsite | SELECT | TOC | 2016 Round 2 | - | N/A | <2 | mg/l | yes | |
| SW4 | onsite | SELECT | Total Suspended Solids | 2016 Round 2 | - | N/A | <10 | mg/l | yes | |

| AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) | | | | | | | | | | Lic No: | W0081-04 | Year | 2016 |
|---|--------|--------|-------------------------|--------------|--------------|-----|-------|-----------|---|-------------|----------|------|------|
| SW4 | onsite | SELECT | Sulphate | 2016 Round 2 | - | N/A | 11.5 | mg/l | yes | | | | |
| SW4 | onsite | SELECT | Dissolved Oxygen | 2016 Round 2 | - | N/A | 3 | mg/l | yes | | | | |
| SW4 | onsite | SELECT | SVOCs except..... | 2016 Round 2 | - | N/A | N.D | µg/l | yes | | | | |
| SW4 | onsite | SELECT | 4-Methylphenol | 2016 Round 2 | - | N/A | <1 | µg/l | yes | | | | |
| SW4 | onsite | SELECT | Phenol | 2016 Round 2 | 8 | N/A | <1 | µg/l | yes | | | | |
| SW4 | onsite | SELECT | VOC's | 2016 Round 2 | - | N/A | N.D | µg/l | yes | | | | |
| SW4 | onsite | SELECT | Total Coliforms | 2016 Round 2 | - | N/A | 71 | cfu/100ml | yes | | | | |
| SW4 | onsite | SELECT | E-Coli | 2016 Round 2 | - | N/A | 71 | cfu/100ml | yes | | | | |
| SW5 | onsite | SELECT | Boron | 2016 Round 1 | 2,000 | N/A | <12 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Cadmium | 2016 Round 1 | 5 | N/A | <0.5 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Calcium | 2016 Round 1 | - | N/A | 119.3 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Copper | 2016 Round 1 | 30 | N/A | <7 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Iron | 2016 Round 1 | 1,000 | N/A | 27 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Lead | 2016 Round 1 | 10 | N/A | <5 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Magnesium | 2016 Round 1 | - | N/A | 8.8 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Manganese | 2016 Round 1 | 300 | N/A | <2 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Mercury | 2016 Round 1 | 1 | N/A | <1 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Nickel | 2016 Round 1 | 50 | N/A | <2 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Potassium | 2016 Round 1 | - | N/A | <0.1 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Sodium | 2016 Round 1 | - | N/A | 9.6 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Zinc | 2016 Round 1 | 100 | N/A | <3 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Dissolved Phosphorus | 2016 Round 1 | - | N/A | 9 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Total Chromium | 2016 Round 1 | 30 | N/A | <1.5 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Chloride | 2016 Round 1 | 250 | N/A | 18.3 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Nitrate (NO3) | 2016 Round 1 | 50 | N/A | 6.9 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Nitrite (NO2) | 2016 Round 1 | 0 | N/A | <0.02 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Ortho Phosphate | 2016 Round 1 | - | N/A | <0.06 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Ammoniacal Nitrogen | 2016 Round 1 | 0.065 | N/A | 0.05 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Total Alkalinity | 2016 Round 1 | - | N/A | 284 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | BOD | 2016 Round 1 | 1.5 | N/A | 1 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | COD | 2016 Round 1 | - | N/A | 18 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Electrical Conductivity | 2016 Round 1 | 1,000 | N/A | 612 | µS/cm | yes | | | | |
| SW5 | onsite | SELECT | pH | 2016 Round 1 | < 6.0 & >9.0 | N/A | 7.6 | pH units | yes | | | | |
| SW5 | onsite | SELECT | TOC | 2016 Round 1 | - | N/A | 4 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Total Suspended Solids | 2016 Round 1 | - | N/A | 112 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Sulphate | 2016 Round 1 | - | N/A | - | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Dissolved Oxygen | 2016 Round 1 | - | N/A | - | mg/l | yes | | | | |
| SW5 | onsite | SELECT | SVOCs except..... | 2016 Round 1 | - | N/A | - | µg/l | yes | | | | |
| SW5 | onsite | SELECT | 4-Methylphenol | 2016 Round 1 | - | N/A | - | µg/l | yes | | | | |
| SW5 | onsite | SELECT | Phenol | 2016 Round 1 | 8 | N/A | - | µg/l | yes | | | | |
| SW5 | onsite | SELECT | VOC's | 2016 Round 1 | - | N/A | - | µg/l | yes | | | | |
| SW5 | onsite | SELECT | Total Coliforms | 2016 Round 1 | - | N/A | - | cfu/100ml | yes | | | | |
| SW5 | onsite | SELECT | E-Coli | 2016 Round 1 | - | N/A | - | cfu/100ml | yes | | | | |
| SW5 | onsite | SELECT | Boron | 2016 Round 2 | 2,000 | N/A | <12 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Cadmium | 2016 Round 2 | 5 | N/A | <0.5 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Calcium | 2016 Round 2 | - | N/A | 142 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Copper | 2016 Round 2 | 30 | N/A | <7 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Iron | 2016 Round 2 | 1,000 | N/A | 682 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Lead | 2016 Round 2 | 10 | N/A | <5 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Magnesium | 2016 Round 2 | - | N/A | 10.3 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Manganese | 2016 Round 2 | 300 | N/A | 16560 | ug/l | no (if no please enter details in comments box) | Exceeds EQS | | | |
| SW5 | onsite | SELECT | Mercury | 2016 Round 2 | 1 | N/A | <1 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Nickel | 2016 Round 2 | 50 | N/A | <2 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Potassium | 2016 Round 2 | - | N/A | 12.5 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Sodium | 2016 Round 2 | - | N/A | 11.4 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Zinc | 2016 Round 2 | 100 | N/A | <3 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Dissolved Phosphorus | 2016 Round 2 | - | N/A | 2421 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Total Chromium | 2016 Round 2 | 30 | N/A | <1.5 | ug/l | yes | | | | |
| SW5 | onsite | SELECT | Chloride | 2016 Round 2 | 250 | N/A | 27.5 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Nitrate (NO3) | 2016 Round 2 | 50 | N/A | <0.2 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Nitrite (NO2) | 2016 Round 2 | 0 | N/A | <0.02 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Ortho Phosphate | 2016 Round 2 | - | N/A | <0.06 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Ammoniacal Nitrogen | 2016 Round 2 | 0.065 | N/A | 0.61 | mg/l | no (if no please enter details in comments box) | Exceeds EQS | | | |
| SW5 | onsite | SELECT | Total Alkalinity | 2016 Round 2 | - | N/A | 380 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | BOD | 2016 Round 2 | 1.5 | N/A | 22 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | COD | 2016 Round 2 | - | N/A | 102 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Electrical Conductivity | 2016 Round 2 | 1,000 | N/A | 846 | µS/cm | yes | | | | |
| SW5 | onsite | SELECT | pH | 2016 Round 2 | < 6.0 & >9.0 | N/A | 7.08 | pH units | yes | | | | |
| SW5 | onsite | SELECT | TOC | 2016 Round 2 | - | N/A | 4 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Total Suspended Solids | 2016 Round 2 | - | N/A | 139 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Sulphate | 2016 Round 2 | - | N/A | 44.2 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | Dissolved Oxygen | 2016 Round 2 | - | N/A | 2 | mg/l | yes | | | | |
| SW5 | onsite | SELECT | SVOCs except..... | 2016 Round 2 | - | N/A | N.D | µg/l | yes | | | | |
| SW5 | onsite | SELECT | 4-Methylphenol | 2016 Round 2 | - | N/A | 25 | µg/l | yes | | | | |
| SW5 | onsite | SELECT | Phenol | 2016 Round 2 | 8 | N/A | 5 | µg/l | yes | | | | |
| SW5 | onsite | SELECT | VOC's | 2016 Round 2 | - | N/A | N.D | µg/l | yes | | | | |
| SW5 | onsite | SELECT | Total Coliforms | 2016 Round 2 | - | N/A | 0 | cfu/100ml | yes | | | | |
| SW5 | onsite | SELECT | E-Coli | 2016 Round 2 | - | N/A | 0 | cfu/100ml | yes | | | | |
| SW6 | onsite | SELECT | Boron | 2016 Round 1 | 2,000 | N/A | 15 | ug/l | yes | | | | |
| SW6 | onsite | SELECT | Cadmium | 2016 Round 1 | 5 | N/A | <0.5 | ug/l | yes | | | | |
| SW6 | onsite | SELECT | Calcium | 2016 Round 1 | - | N/A | 128.6 | mg/l | yes | | | | |
| SW6 | onsite | SELECT | Copper | 2016 Round 1 | 30 | N/A | <7 | ug/l | yes | | | | |
| SW6 | onsite | SELECT | Iron | 2016 Round 1 | 1,000 | N/A | <20 | ug/l | yes | | | | |
| SW6 | onsite | SELECT | Lead | 2016 Round 1 | 10 | N/A | <5 | ug/l | yes | | | | |
| SW6 | onsite | SELECT | Magnesium | 2016 Round 1 | - | N/A | 7.9 | mg/l | yes | | | | |
| SW6 | onsite | SELECT | Manganese | 2016 Round 1 | 300 | N/A | <2 | ug/l | yes | | | | |
| SW6 | onsite | SELECT | Mercury | 2016 Round 1 | 1 | N/A | <1 | ug/l | yes | | | | |
| SW6 | onsite | SELECT | Nickel | 2016 Round 1 | 50 | N/A | <2 | ug/l | yes | | | | |

Bund testing

dropdown menu click to see options

Additional information

Are you required by your licence to undertake integrity testing on bunds and containment structures? If yes please fill out table B1 below listing all **new bunds and containment structures** on site, in addition to **all bunds which failed the integrity test - all bunding structures which failed including mobile bunds must be listed in the table below, please include all bunds outside the licenced testing period** (mobile bunds and chemstore included)

| | |
|--------|---|
| Yes | Killcullen Landfill Ltd have engaged Golder and associates to undertake tank, bund and pipe line testing scheduled for April 2017, the finalised report will be on file and available for inspection. |
| SELECT | |
| SELECT | |
| SELECT | |
| SELECT | |
| SELECT | |
| SELECT | |
| SELECT | |
| SELECT | |
| SELECT | |
| SELECT | |
| SELECT | |
| SELECT | |

- 1 Please provide integrity testing frequency period
- 2 Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)
- 3 How many bunds are on site?
- 4 How many of these bunds have been tested within the required test schedule?
- 5 How many mobile bunds are on site?
- 6 Are the mobile bunds included in the bund test schedule?
- 7 How many of these mobile bunds have been tested within the required test schedule?
- 8 How many sumps on site are included in the integrity test schedule?
- 9 How many of these sumps are integrity tested within the test schedule?
- 10 **Please list any sump integrity failures in table B1**
- 11 Do all sumps and chambers have high level liquid alarms?
- 12 If yes to Q11 are these failsafe systems included in a maintenance and testing programme?
- 13 Is the Fire Water Retention Pond included in your integrity test programme?

Table B1: Summary details of bund /containment structure integrity test

| Bund/Containment structure ID | Type | Specify Other type | Product containment | Actual capacity | Capacity required* | Type of integrity test | Other test type | Test date | Integrity reports maintained on site? | Results of test | Integrity test failure explanation <50 words | Corrective action taken | Scheduled date for retest | Results of retest(if in current reporting year) |
|-------------------------------|--------|--------------------|---------------------|-----------------|--------------------|------------------------|-----------------|-----------|---------------------------------------|-----------------|--|-------------------------|---------------------------|---|
| | SELECT | | | | | SELECT | | | SELECT | SELECT | | SELECT | | |
| | SELECT | | | | | SELECT | | | SELECT | SELECT | | SELECT | | |

*Capacity required should comply with 25% or 110% containment rule as detailed in your licence

Has integrity testing been carried out in accordance with licence requirements and are all structures tested

15 in line with BS8007/EPA Guidance?

[bundling and storage guidelines](#)

16 Are channels/transfer systems to remote containment systems tested?

17 Are channels/transfer systems compliant in both integrity and available volume?

| | |
|--------|------------|
| | Commentary |
| SELECT | |
| SELECT | |
| SELECT | |

Pipeline/underground structure testing

Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc? If yes please fill out table 2 below listing

1 all underground structures and pipelines on site **which failed the integrity test and all which have not been tested within the integrity test period as specified**

2 Please provide integrity testing frequency period

*please note integrity testing means water tightness testing for process and foul pipelines (as required under your licence)

| | |
|--------|--|
| SELECT | |
| SELECT | |

Table B2: Summary details of pipeline/underground structures integrity test

| Structure ID | Type system | Material of construction: | Does this structure have Secondary containment? | Type of secondary containment | Type integrity testing | Integrity reports maintained on site? | Results of test | Integrity test failure explanation <50 words | Corrective action taken | Scheduled date for retest | Results of retest(if in current reporting year) |
|--------------|-------------|---------------------------|---|-------------------------------|------------------------|---------------------------------------|-----------------|--|-------------------------|---------------------------|---|
| | SELECT | SELECT | SELECT | SELECT | SELECT | SELECT | SELECT | | | | SELECT |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Please use commentary for additional details not answered by tables/ questions above

| | | | | |
|---|---------|----------|------|------|
| Groundwater/Soil monitoring template | Lic No: | W0081-04 | Year | 2016 |
|---|---------|----------|------|------|

| | | | Comments |
|----|--|-----|---|
| 1 | Are you required to carry out groundwater monitoring as part of your licence requirements? | yes | <p>During 2016, two (2 No.) private groundwater well samples were collected and analysed. This sampling event took place in December 2016. The results of the analysis were reported in the Q-4 quarterly report. All residents received copies of the results from their respective wells. All the parameters were lower than the IGV or GTV. Groundwater quality in the private wells was good and consistent with previous rounds.</p> <p>Groundwater quality was monitored in the on-site monitoring wells and reported to the Agency at quarterly intervals. The sampling was carried out in accordance with internationally accepted techniques and control procedures and the analyses were completed by a laboratory using standard and internationally accepted procedures</p> |
| 2 | Are you required to carry out soil monitoring as part of your licence requirements? | no | |
| 3 | Do you extract groundwater for use on site? If yes please specify use in comment section | no | |
| 4 | Do monitoring results show that groundwater generic assessment criteria such as GTVs or IGVs are exceeded or is there an upward trend in results for a substance? If yes, please complete the Groundwater Monitoring Guideline Template Report (link in cell G8) and submit separately through ALDER as a licensee return AND answer questions 5-12 below. | no | <p>The results from the on-site monitoring wells are consistent with previous results. The groundwater quality at the facility is influenced by an ongoing groundwater contamination plume emanating from the adjacent partially lined Silliot Hill landfill.</p> <p>The quality of the water in both private wells is generally good and shows no impacts associated with the landfill facility. Please enter interpretation of data here.</p> |
| 5 | Is the contamination related to operations at the facility (either current and/or historic) | yes | |
| 6 | Have actions been taken to address contamination issues? If yes please summarise remediation strategies proposed/undertaken for the site | yes | |
| 7 | Please specify the proposed time frame for the remediation strategy | N/A | |
| 8 | Is there a licence condition to carry out/update ELRA for the site? | yes | |
| 9 | Has any type of risk assessment been carried out for the site? | yes | |
| 10 | Has a Conceptual Site Model been developed for the site? | yes | |
| 11 | Have potential receptors been identified on and off site? | yes | |
| 12 | Is there evidence that contamination is migrating offsite? | no | |

| undwater/Soil monitoring template | | | Lic No: W0081-04 | | Year 2016 | | | | | |
|-----------------------------------|---------------------------|--------------------------|------------------------------|----------------------|-------------------------|------------------------|------|--------|----------|--|
| Date of sampling | Sample location reference | Parameter/ Substance | Methodology | Monitoring frequency | Maximum Concentration++ | Average Concentration+ | unit | GTV's* | IGV | Upward trend in pollutant concentration over last 5 years of monitoring data |
| 2016 | BH-11D | Dissolved Arsenic | ICP-OES | Quarterly | <2.5 | <2.5 | µg/l | 7.5 | SELECT** | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Barium | ICP-OES | Quarterly | 53 | 48.75 | µg/l | - | SELECT** | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Boron | ICP-OES | Quarterly | 15 | 15 | µg/l | 750 | SELECT** | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Cadmium | ICP-OES | Quarterly | <0.5 | <0.5 | µg/l | 5 | SELECT** | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Calcium | ICP-OES | Quarterly | 136.3 | 131.025 | mg/l | 200 | SELECT** | No obviuos trend evident |
| 2016 | BH-11D | Total Dissolved Chromium | ICP-OES | Quarterly | <1.5 | <1.5 | µg/l | 37.5 | SELECT** | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Copper | ICP-OES | Quarterly | <7 | <7 | µg/l | 1500 | SELECT** | No obviuos trend evident |
| 2016 | BH-11D | Total Dissolved Iron | ICP-OES | Quarterly | <20 | <20 | µg/l | 50 | IGV | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Lead | ICP-OES | Quarterly | <5 | <5 | µg/l | 18.75 | SELECT** | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Magnesium | ICP-OES | Quarterly | 17.3 | 16.475 | mg/l | 50 | IGV | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Manganese | ICP-OES | Quarterly | <2 | <2 | µg/l | 0.05 | IGV | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Mercury | ICP-OES | Quarterly | <0.01 | <0.01 | µg/l | 1 | IGV | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Nickel | ICP-OES | Quarterly | <2 | <2 | µg/l | 15 | SELECT** | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Potassium | ICP-OES | Quarterly | 0.9 | 0.85 | mg/l | 5 | IGV | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Sodium | ICP-OES | Quarterly | 8.3 | 7.675 | mg/l | 150 | SELECT** | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Zinc | ICP-OES | Quarterly | <3 | <3 | µg/l | 0.1 | IGV | No obviuos trend evident |
| 2016 | BH-11D | Dissolved Phosphorus | ICP-OES | Quarterly | 91 | 50.975 | µg/l | - | SELECT** | No obviuos trend evident |
| 2016 | BH-11D | Total Phenols | HPLC | Quarterly | <0.1 | <0.1 | mg/l | 500 | IGV | No obviuos trend evident |
| 2016 | BH-11D | Fluoride | Dionex (Ion-Chromatography). | Quarterly | <0.3 | <0.3 | mg/l | 1 | IGV | No obviuos trend evident |

[Click here to access EPA guidance on Environmental Liabilities and Financial provision](#)

| | | Commentary |
|----|---|--|
| 1 | ELRA initial agreement status | As part of Condition 12.3.2, the Licensee has completed a fully costed Environmental Liabilities Risk Assessment for the site. This document outlines the potential unknown environmental liabilities associated with the landfill and estimates the possible cost of these liabilities. An environmental liability insurance policy has been taken out for €10M which is more than sufficient to cover any unforeseen event contemplated within the ELRA. |
| | Submitted and agreed by EPA | |
| 2 | ELRA review status | |
| 3 | Amount of Financial Provision cover required as determined by the latest ELRA | |
| 4 | Financial Provision for ELRA status | |
| 5 | Financial Provision for ELRA - amount of cover | |
| 6 | Financial Provision for ELRA - type | |
| 7 | Financial provision for ELRA expiry date | Under condition 12.3.3 of the site licence Kilkullen Landfill is required to maintain a financial provision that is sufficient to cover all liabilities incurred whilst carrying on the activities to which this licence relates. As part of the licence transfer from KTK Landfill Ltd to Kilkullen landfill Ltd, the CRAMP liability was recalculated and agreed with the Office for Environmental Enforcement as being €3.42M as at 1 January 2013. Financial provision, to the satisfaction of the Board of the EPA, was then put in place sufficient to cover the cost of this CRAMP liability. |
| 8 | Closure plan initial agreement status | |
| 9 | Closure plan review status | |
| 10 | Financial Provision for Closure status | |
| 11 | Financial Provision for Closure - amount of cover | |
| 12 | Financial Provision for Closure - type | |
| 13 | Financial provision for Closure expiry date | |

Closure plan submitted and agreed by EPA

Review required and completed

Submitted and agreed by EPA

10mn

Public Liability Insurance with Environmental Impairment Liability cover,

N/A

| | | |
|---|------------------|------------|
| Environmental Management Programme/Continuous Improvement Programme template | Lic No: W0081-04 | Year: 2016 |
|---|------------------|------------|

| | Highlighted cells contain dropdown menu click to view | Additional Information |
|---|---|------------------------|
| 1 | Do you maintain an Environmental Management System (EMS) for the site. If yes, please detail in additional information | Yes |
| 2 | Does the EMS reference the most significant environmental aspects and associated impacts on-site | Yes |
| 3 | Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements | Yes |
| 4 | Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence | Yes |

| Environmental Management Programme (EMP) report | | | | | |
|--|--|----------------------|---|--|--|
| Objective Category | Target | Status (% completed) | How target was progressed | Responsibility | Intermediate outcomes |
| CRAMP | Complete installation of the permanent Surface Water Management System | before autumn 2017 | Meetings held and documented | Facility Manager | Complete installation of the permanent Surface Water Management System |
| | Removal of surplus equipment and materials etc. on site | ongoing | Progressive final and intermediate capping, continuous gas extraction. | Facility Manager | Removal of surplus equipment and materials etc. on site |
| Minimise the amount of natural resources (water, power etc.) consumed at the Facility. | Conduct Energy Audit of Facility and identify opportunities for improved energy efficiency in aftercare phase. | before autumn 2017 | Structured capping program due for completion in 2017 | Site Manager | Conduct Energy Audit of Facility and identify opportunities for improved energy efficiency in aftercare phase. |
| Training | Continue to train staff on a regular basis in EMS system, waste licence and Emergency Response. | Ongoing Annual Basis | Regular landfill infrastructure checks and field balancing | Site Manager | Continue to train staff on a regular basis in EMS system, waste licence and Emergency Response. |
| CRAMP | Complete installation of the permanent Surface Water Management System | before autumn 2017 | Placement of geohess on outer flank of landfill | Facility Manager | Complete installation of the permanent Surface Water Management System |
| | Removal of surplus equipment on site (Wheel wash and weighbridge) | End 2017 | As per Target | Facility Manager | Removal of surplus equipment on site (Wheel wash and weighbridge) |
| Minimise the amount of natural resources (water, power etc.) consumed at the Facility. | Conduct Energy Audit of Facility and identify opportunities for improved energy efficiency in aftercare phase. | Sep-17 | Weekly and quarterly checks completed | Facility and Assistant Manager | Conduct Energy Audit of Facility and identify opportunities for improved energy efficiency in aftercare phase. |
| Training | Continue to train staff on a regular basis in EMS system, waste licence and Emergency Response. | Ongoing Annual Basis | Approved by the Agency. Now implemented in Cells 3 and 4. | Facility and Assistant Manager | Continue to train staff on a regular basis in EMS system, waste licence and Emergency Response. |
| IMS System | Review and amend IMS system in accordance with the new AGB landfills IMS systems | End 2017 | Cells filled on individual basis, on site checks are completed during cell construction | Facility and Assistant and H&S Manager | Review and amend IMS system in accordance with the new AGB landfills IMS systems |
| | | | Plans on hold | | |

Noise monitoring summary report Lic No: W0081-04 Year: 2016

- 1 Was noise monitoring a licence requirement for the AER period?
If yes please fill in table N1 noise summary below
- 2 Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6? [Noise Guidance note NG4](#)
- 3 Does your site have a noise reduction plan
- 4 When was the noise reduction plan last updated?
- 5 Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?

Table N1: Noise monitoring summary

| Date of monitoring | Time period | Noise location (on site) | Noise sensitive location -NSL (if applicable) | LA _{eq} | LA ₉₀ | LA ₁₀ | LA _{max} | Tonal or Impulsive noise* (Y/N) | If tonal /impulsive noise was identified was 5dB penalty applied? | Comments (ex. main noise sources on site, & extraneous noise ex. road traffic) | Is <u>site</u> compliant with noise limits (day/evening/night)? |
|--------------------|-------------|--------------------------|---|------------------|------------------|------------------|-------------------|---------------------------------|---|--|---|
| | | | | | | | | SELECT | SELECT | | SELECT |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options?

** please explain the reason for not taking action/resolution of noise issues?

Any additional comments? (less than 200 words)

- 1 When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below
- 2 Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information
- 3 Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information

[SEAI - Large Industry Energy Network \(LIEN\)](#)

Additional information

| | | |
|--------|------|----------------|
| | 2016 | |
| No | | |
| SELECT | | Not Applicable |

| Table R1 Energy usage on site | | | | |
|--|---------------|--------------|--|--|
| Energy Use | Previous year | Current year | Production +/- % compared to previous reporting year** | Energy Consumption +/- % vs overall site production* |
| Total Energy Used (MWHrs) | | | | |
| Total Energy Generated (MWHrs) | | | | |
| Total Renewable Energy Generated (MWHrs) | 8,916 | 7,423 | -16.75% | |
| Electricity Consumption (MWHrs) | 0.1926 | 0.199603 | 3.64% | |
| Fossil Fuels Consumption: | | | | |
| Heavy Fuel Oil (m3) | 0.11 | 0.03 | -72.73% | |
| Light Fuel Oil (m3) | 9 | 0.5 | -94.50% | |
| Natural gas (m3) | NA | NA | | |
| Coal/Solid fuel (metric tonnes) | NA | NA | | |
| Peat (metric tonnes) | | | | |
| Renewable Biomass | | | | |
| Renewable energy generated on site | | | | |

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

| Table R2 Water usage on site | | | | | Water Emissions | Water Consumption |
|------------------------------|--------------------------------------|-------------------------------------|--|--|--|--|
| Water use | Water extracted Previous year m3/yr. | Water extracted Current year m3/yr. | Production +/- % compared to previous reporting year** | Energy Consumption +/- % vs overall site production* | Volume Discharged back to environment(m ³ /yr): | Volume used i.e not discharged to environment e.g. released as steam m3/yr |
| Groundwater | | | | | | |
| Surface water | | | | | | |
| Public supply | 0.661 | 0.661 | 0 | | | |
| Recycled water | | | | | | |
| Total | | | | | | |

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

6,871

| Table R3 Waste Stream Summary | | | | | |
|-------------------------------|-------|----------|--------------|----------|-------|
| | Total | Landfill | Incineration | Recycled | Other |
| Hazardous (Tonnes) | | | | | |
| Non-Hazardous (Tonnes) | | | | | |

Resource Usage/Energy efficiency summary Lic No: W0081-04 Year 2016

| Table R4: Energy Audit finding recommendations | | | | | | | | |
|--|-----------------|----------------------------------|--------------------|----------------------------|---------------------|----------------|-----------------|---------------------|
| Date of audit | Recommendations | Description of Measures proposed | Origin of measures | Predicted energy savings % | Implementation date | Responsibility | Completion date | Status and comments |
| | | | SELECT | | | | | |
| | | | SELECT | | | | | |
| | | | SELECT | | | | | |

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry) please complete the following information

| | Unit ID | Unit ID | Unit ID | Unit ID | Station Total |
|---|---------|---------|---------|---------|---------------|
| Technology | | | | | |
| Primary Fuel | | | | | |
| Thermal Efficiency | | | | | |
| Unit Date of Commission | | | | | |
| Total Starts for year | | | | | |
| Total Running Time | | | | | |
| Total Electricity Generated (GWH) | | | | | |
| House Load (GWH) | | | | | |
| KWH per Litre of Process Water | | | | | |
| KWH per Litre of Total Water used on Site | | | | | |

| | | | | |
|----------------------|---------|----------|------|------|
| WASTE SUMMARY | Lic No: | W0081-04 | Year | 2016 |
|----------------------|---------|----------|------|------|

Table 4 Environmental monitoring-landfill only [Landfill Manual-Monitoring Standards](#)

| Was meteorological monitoring in compliance with Landfill Directive (LD) standard in reporting year + | Was leachate monitored in compliance with LD standard in reporting year | Was Landfill Gas monitored in compliance with LD standard in reporting year | Was SW monitored in compliance with LD standard in reporting year | Have GW trigger levels been established | Were emission limit values agreed with the Agency (ELVs) | Was topography of the site surveyed in reporting year | Has the statement under S53(A)(5) of WMA been submitted in reporting year | Comments |
|---|---|---|---|---|--|---|---|----------|
| | | | | | | | | |

+ please refer to Landfill Manual linked above for relevant Landfill Directive monitoring standards

Table 5 Capping-Landfill only

| Area uncapped* | Area with temporary cap | Area with final cap to LD Standard m ² ha, a | Area capped other | Area with waste that should be permanently capped to date under licence | What materials are used in the cap | Comments |
|----------------|-------------------------|---|-------------------|---|------------------------------------|----------|
| SELECT UNIT | SELECT UNIT | | | | | |
| | | | | | | |

*please note this includes daily cover area

Table 6 Leachate-Landfill only

9 Is leachate from your site treated in a Waste Water Treatment Plant?

SELECT

10 Is leachate released to surface water? If yes please complete leachate mass load information below

SELECT

| Volume of leachate in reporting year(m ³) | Leachate (BOD) mass load (kg/annum) | Leachate (COD) mass load (kg/annum) | Leachate (NH ₄) mass load (kg/annum) | Leachate (Chloride) mass load kg/annum | Leachate treatment on-site | Specify type of leachate treatment | Comments |
|---|-------------------------------------|-------------------------------------|--|--|----------------------------|------------------------------------|----------|
| | | | | | | | |

Please ensure that all information reported in the landfill gas section is consistent with the Landfill Gas Survey submitted in conjunction with PRTR returns

Table 7 Landfill Gas-Landfill only

| Gas Captured&Treated by LFG System m ³ | Power generated (MW / KWh) | Used on-site or to national grid | Was surface emissions monitoring performed during the reporting year? | Comments |
|---|----------------------------|----------------------------------|---|----------|
| | | | SELECT | |



Environmental Protection Agency

| PRTR# : W0081 | Facility Name : Kilcullen Landfill Limited | Filename : PRTR W0081_2016.xls | Return Year : 2016 |

[Guidance to completing the PRTR workbook](#)

PRTR Returns Workbook

Version 1.1.19

| | |
|-----------------------|------|
| REFERENCE YEAR | 2016 |
|-----------------------|------|

1. FACILITY IDENTIFICATION

| | |
|----------------------------|----------------------------|
| Parent Company Name | Kilcullen Landfill Limited |
| Facility Name | Kilcullen Landfill Limited |
| PRTR Identification Number | W0081 |
| Licence Number | W0081-04 |

Classes of Activity

| No. | class name |
|-----|--------------------------------------|
| - | Refer to PRTR class activities below |

| | |
|--|---|
| Address 1 | Brownstown and Carnalway |
| Address 2 | Kilcullen |
| Address 3 | |
| Address 4 | |
| | Kildare |
| Country | Ireland |
| Coordinates of Location | -6.71785 53.1451 |
| River Basin District | IEEA |
| NACE Code | 3821 |
| Main Economic Activity | Treatment and disposal of non-hazardous waste |
| AER Returns Contact Name | Tomas Fingleton |
| AER Returns Contact Email Address | tomas.fingleton@landfills.ie |
| AER Returns Contact Position | Landfill Manager |
| AER Returns Contact Telephone Number | 0867741813 |
| AER Returns Contact Mobile Phone Number | 0867741813 |
| AER Returns Contact Fax Number | 045 482629 |
| Production Volume | 0.0 |
| Production Volume Units | |
| Number of Installations | 0 |
| Number of Operating Hours in Year | 0 |
| Number of Employees | 3 |
| User Feedback/Comments | |
| Web Address | |

2. PRTR CLASS ACTIVITIES

| Activity Number | Activity Name |
|-----------------|---|
| 5(d) | Landfills |
| 5(c) | Installations for the disposal of non-hazardous waste |
| 5(d) | Landfills |
| 50.1 | General |

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

| | |
|---|--|
| Is it applicable? | |
| Have you been granted an exemption ? | |
| If applicable which activity class applies (as per Schedule 2 of the regulations) ? | |
| Is the reduction scheme compliance route being used ? | |

4. WASTE IMPORTED/ACCEPTED ONTO SITE

[Guidance on waste imported/accepted onto site](#)

| | |
|--|--|
| Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ? | |
|--|--|

4.1 RELEASES TO AIR

[Link to previous years emissions data](#)

| PRTR# : W0081 | Facility Name : Kilcullen Landfill Limited | Filename : PRTR W0081_2016.xls | Return Year : 2016 |

26/05/2017 12:45

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

| POLLUTANT | | METHOD | | | Please enter all quantities in this section in KGs | | | | |
|--------------|--------------------------|--------|----------------|----------------------------------|--|------------------|-------------------|------------------------|----------------------|
| No. Annex II | Name | M/C/E | Method Used | | GE-01 | Flare 1 | QUANTITY | | |
| | | | Method Code | Designation or Description | Emission Point 1 | Emission Point 2 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| 02 | Carbon monoxide (CO) | C | EN 15058:2004 | NCIR By Horiba PG-250 | 6343.05 | 11.42 | 6354.47 | 0.0 | 0.0 |
| 05 | Nitrous oxide (N2O) | C | ISO 11564:1998 | Chemiluminescence | 2173.63 | 18.57 | 2192.2 | 0.0 | 0.0 |
| 11 | Sulphur oxides (SOx/SO2) | C | ALT | TGN 21 | 5498.3 | 223.07 | 5721.37 | 0.0 | 0.0 |
| | | C | | | 0.0 | | 0.0 | 0.0 | 0.0 |
| 01 | Methane (CH4) | C | OTH | Gassim model and monitoring data | 0.0 | 0.0 | 608406.83 | 0.0 | 608406.83 |

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

| POLLUTANT | | METHOD | | | Please enter all quantities in this section in KGs | | | |
|--------------|------|--------|-------------|----------------------------|--|-------------------|------------------------|----------------------|
| No. Annex II | Name | M/C/E | Method Used | | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| | | | Method Code | Designation or Description | | | | |
| | | | | | | 0.0 | 0.0 | 0.0 |

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

| POLLUTANT | | METHOD | | | Please enter all quantities in this section in KGs | | | |
|---------------|------|--------|-------------|----------------------------|--|-------------------|------------------------|----------------------|
| Pollutant No. | Name | M/C/E | Method Used | | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| | | | Method Code | Designation or Description | | | | |
| | | C | | | | 0.0 | 0.0 | 0.0 |

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

| Landfill: Please enter summary data on the quantities of methane flared and / or utilised | Kilcullen Landfill Limited | | | | |
|--|----------------------------|-------|-------------|-----------------------------|-------------------------------------|
| | T (Total) kg/Year | M/C/E | Method Code | Designation or Description | Facility Total Capacity m3 per hour |
| Total estimated methane generation (as per site model) | 1872183.0 | M | OTH | Gassim Lite | N/A |
| Methane flared | 55596.98 | M | OTH | Facility on-site Monitoring | 0.0 (Total Flaring Capacity) |
| Methane utilised in engine/s | 1208179.19 | M | OTH | Facility on-site Monitoring | 0.0 (Total Utilising Capacity) |
| Net methane emission (as reported in Section A above) | 608406.83 | M | OTH | Model and monitoring data | N/A |

4.2 RELEASES TO WATERS

[Link to previous years emissions data](#)

| PRTR# : W0081 | Facility Name : Kilcullen Landfill Limited | Filename : PRTR W0081_2016.xls | Return Year : 2016 |

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SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as it

| RELEASES TO WATERS | | | | | Please enter all quantities in this section in KGs | | | |
|--------------------|------|-------|-------------|----------------------------|--|-------------------|------------------------|----------------------|
| POLLUTANT | | M/C/E | Method Used | | QUANTITY | | | |
| No. Annex II | Name | | Method Code | Designation or Description | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| | | | | | 0.0 | 0.0 | 0.0 | 0.0 |

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

| RELEASES TO WATERS | | | | | Please enter all quantities in this section in KGs | | | |
|--------------------|------|-------|-------------|----------------------------|--|-------------------|------------------------|----------------------|
| POLLUTANT | | M/C/E | Method Used | | QUANTITY | | | |
| No. Annex II | Name | | Method Code | Designation or Description | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| | | | | | 0.0 | 0.0 | 0.0 | 0.0 |

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

| RELEASES TO WATERS | | | | | Please enter all quantities in this section in KGs | | | |
|--------------------|------|-------|-------------|----------------------------|--|-------------------|------------------------|----------------------|
| POLLUTANT | | M/C/E | Method Used | | QUANTITY | | | |
| Pollutant No. | Name | | Method Code | Designation or Description | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| | | | | | 0.0 | 0.0 | 0.0 | 0.0 |

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.3 RELEASES TO WASTEWATER OR SEWER

[Link to previous years emissions data](#)

| PRTR#: W0081 | Facility Name : Kilcullen Landfill Limited | Filename : PRTR W0081_2016.xls | R:

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SECTION A : PRTR POLLUTANTS

| OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER | | | | | Please enter all quantities in this section in KGs | | | |
|--|------|--------|-------------|----------------------------|--|-------------------|------------------------|----------------------|
| POLLUTANT | | METHOD | | | QUANTITY | | | |
| No. Annex II | Name | M/C/E | Method Used | | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| | | | Method Code | Designation or Description | | | | |
| | | | | | 0.0 | 0.0 | 0.0 | 0.0 |

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

| OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER | | | | | Please enter all quantities in this section in KGs | | | |
|--|------|--------|-------------|----------------------------|--|-------------------|------------------------|----------------------|
| POLLUTANT | | METHOD | | | QUANTITY | | | |
| Pollutant No. | Name | M/C/E | Method Used | | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| | | | Method Code | Designation or Description | | | | |
| | | | | | 0.0 | 0.0 | 0.0 | 0.0 |

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.4 RELEASES TO LAND

[Link to previous years emissions data](#)

| PRTR# : W0081 | Facility Name : Kilcullen Landfill Limited | Filename : PRTR W0081_2016.xls | Return Year : 2016 |

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SECTION A : PRTR POLLUTANTS

| POLLUTANT | | RELEASERS TO LAND | | | Please enter all quantities in this section in KGs | | |
|--------------|------|-------------------|-------------|----------------------------|--|-------------------|------------------------|
| POLLUTANT | | METHOD | | | QUANTITY | | |
| No. Annex II | Name | M/C/E | Method Code | Designation or Description | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year |
| | | | | | 0.0 | 0.0 | 0.0 |

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

| POLLUTANT | | RELEASERS TO LAND | | | Please enter all quantities in this section in KGs | | |
|---------------|------|-------------------|-------------|----------------------------|--|-------------------|------------------------|
| POLLUTANT | | METHOD | | | QUANTITY | | |
| Pollutant No. | Name | M/C/E | Method Code | Designation or Description | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year |
| | | | | | 0.0 | 0.0 | 0.0 |

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

| PRTR# : W0081 | Facility Name : Kilcullen Landfill Limited | Filename : PRTR W0081_2016.xls | Return Year : 2016 |

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Please enter all quantities on this sheet in Tonnes

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| Transfer Destination | European Waste Code | Hazardous | Quantity (Tonnes per Year) | Description of Waste | Waste Treatment Operation | Method Used | | Location of Treatment | Haz Waste - Name and Licence/Permit No of Next Destination Facility | | Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY) | Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY) |
|----------------------|---------------------|-----------|----------------------------|--|---------------------------|-------------|-------------|-----------------------|---|---------------|--|--|
| | | | | | | M/C/E | Method Used | | Haz Waste | Non Haz Waste | | |
| Within the Country | 19 07 03 | No | 6871 in 19 07 02 | landfill leachate other than those mentioned | D8 | M | Weighed | Offsite in Ireland | Coco,D00** | | Kildare County Council headquarters,Aras Chill Dara Devoy Park,Naas,Kildare ,Ireland | |

* Select a row by double-clicking the Description of Waste then click the delete button