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Ireland

INTEGRATED POLLUTION PREVENTION & CONTROL LICENCE
Recommended Determination

Licence Register Number:	P0236-02
Company Register Number:	31341
Licensee:	Wellman International Limited
Location of Installation:	Mullagh, Kells, County Cavan

INTRODUCTION

This introduction is not part of the licence and does not purport to be a legal interpretation of the licence.

Wellman International Limited produces polyester which is sold for a variety of uses such as furniture and bedding. All process wastewater from the activity is treated at the wastewater treatment plant (WWTP). Treatment consists of a balance tank, biotower, aeration tanks, settlement tanks and a clarifier. The treated effluent (SW1) from the WWTP is mixed with non-contact cooling water and storm water before discharging to the Moynalty River via SWDP1. The sludge from the WWTP is dried using a de-watering press, loaded into a skip and removed off site for composting. Nitrification / denitrification occurs within the WWTP. Ortho P removal is to less than the emission limit value of 2mg/l by polyelectrolyte addition.

The activities carried out at this installation are specified in Annex 1 of Council Directive 2008/1/EC (IPPC Directive) as category 4.1(h).

The licence sets out in detail the conditions under which **Wellman International Limited** will operate and manage this installation.

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Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Environmental Protection Agency Acts 1992 to 2012 / Waste Management Acts 1996 to 2012, unless otherwise defined in the section.

Adequate lighting	20 lux measured at ground level.
AER	Annual Environmental Report.
Agreement	Agreement in writing.
Annually	All or part of a period of twelve consecutive months.
Application	The application by the licensee for this licence.
Appropriate Facility	A waste management facility, duly authorised under relevant law and technically suitable.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of this licence application.
BAT	Best Available Techniques.
Biannually	At approximately six – monthly intervals.
Biennially	Once every two years.
BOD	5 day Biochemical Oxygen Demand (without nitrification suppression).
CBOD	5 day Carbonaceous Biochemical Oxygen Demand (with nitrification suppression).
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
COD	Chemical Oxygen Demand.
Compliance Point	The point (location, depth) at which a compliance value should be met. Generally it is represented by a borehole or monitoring well from which representative groundwater samples can be obtained.
Compliance Value	The concentration of a substance and associated compliance regime that, when not exceeded at the compliance point, will prevent pollution and/or achieve water quality objectives at the receptor.
Containment boom	A boom that can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.

CRO Number	Company Register Number.
Daily	During all days of plant operation and, in the case of emissions, when emissions are taking place; with at least one measurement on any one day.
Day	Any 24 hour period.
Daytime	0800 hrs. to 2200 hrs.
dB(A)	Decibels (A weighted).
DO	Dissolved oxygen.
Documentation	Any report, record, results, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
Emission limits	Those limits, including concentration limits and deposition rates, established in <i>Schedule B: Emission Limits</i>, of this licence.
EMP	Environmental Management Programme.
Environmental damage	As defined in Directive 2004/35/EC.
EPA	Environmental Protection Agency.
European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.
Facility	Any site or premises used for the purpose of the recovery of disposal or waste.
Fortnightly	A minimum of 24 times per year, at approximately two week intervals.
GC/MS	Gas chromatography/mass spectroscopy.
ha	Hectare.
Heavy metals	This term is to be interpreted as set out in “Parameters of Water Quality, Interpretation and Standards” published by the Agency in 2001. ISBN 1-84095-015-3.

HFO	Heavy Fuel Oil as defined in Council Directive 1999/32/EC and meeting the requirements of S.I. No. 119 of 2008.
Hours of operation	The hours during which the installation is authorised to be operational.
ICP	Inductively coupled plasma spectroscopy.
Incident	The following shall constitute as incident for the purposes of this licence: (i) an emergency; (ii) any emission which does not comply with the requirements of this licence; (iii) any trigger level specified in this licence which is attained or exceeded; (iv) any compliance value specified in this licence which is attained or exceeded; and, (v) any indication that environmental pollution has, or may have, taken place.
Installation	A stationary technical unit or plant where the activity concerned referred to in the First Schedule of EPA Acts 1992 to 2012 is or will be carried on, and shall be deemed to include any directly associated activity, which has a technical connection with the activity and is carried out on the site of the activity.
IPPC	Integrated Pollution Prevention & Control.
K	Kelvin.
kPa	Kilopascals.
L_{eq}	Equivalent continuous sound level.
Lighting-up time	30 minutes after sun set.
Licensee	Wellman International Limited, Mullagh, Kells, County Cavan, CRO Number 31341.
List I	As listed in the EC Directives 2006/11/EC and 80/68/EEC and amendments.
List II	As listed in the EC Directives 2006/11/EC and 80/68/EEC and amendments.
Local Authority	Cavan County Council.
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to perform its function adequately.

Mass flow limit	An emission limit value expressed as the maximum mass of a substance that can be emitted per unit time.
Mass flow threshold	A mass flow rate above which a concentration limit applies.
Monthly	A minimum of 12 times per year, at intervals of approximately one month.
Night-time	2200 hrs. to 0800 hrs.
Noise-sensitive location (NSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other installation or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
ppm	Parts per million.
PRTR	Pollutant Release and Transfer Register.
Quarterly	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
Sample(s)	Unless the context of this licence indicates to the contrary, the term samples shall include measurements taken by electronic instruments.
Sanitary effluent	Wastewater from installation toilet, washroom and canteen facilities.
SOP	Standard operating procedure.
Specified emissions	Those emissions listed in <i>Schedule B: Emission Limits</i>, of this licence.
Standard method	A National, European or internationally recognised procedure (e.g. I.S. EN, ISO, CEN, BS or equivalent); or an in-house documented procedure based on the above references; a procedure as detailed in the current edition of "Standard Methods for the Examination of Water and Wastewater" (prepared and published jointly by A.P.H.A., A.W.W.A. & W.E.F.), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or an alternative method as may be agreed by the Agency.
Storm water	Rain water run-off from roof and non-process areas.
The Agency	Environmental Protection Agency.
TA Luft	Technical Instructions on Air Quality Control – TA Luft in accordance with art. 48 of the Federal Immission Control Law (BImSchG) dated 15 March 1974 (BGBl. I p 721). Federal Ministry for Environment, Bonn 1986, including the amendment for Classification of Organic Substances according to section 3.1.7 TA. Luft, published in July 1997.

TOC	Total organic carbon.
Trade effluent	Trade effluent has the meaning given in the Water Services Act, 2007.
Trigger level	A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.
Water Services Authority	Cavan County Council.
Weekly	During all weeks of plant operation and, in the case of emissions, when emissions are taking place; with at least one measurement in any one week.
WWTP	Waste water treatment plant.

Decision & Reasons for the Decision

The Environmental Protection Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence, any emissions from the activity will comply with and will not contravene any of the requirements of Section 83(5) of the Environmental Protection Agency Acts 1992 to 2012.

In reaching this decision the Environmental Protection Agency has considered the review and supporting documentation received from the applicant, all submissions received from other parties and the report of its inspector.

Part I Schedule of Activities Licensed

In pursuance of the powers conferred on it by the Environmental Protection Agency Acts 1992 to 2012, the Agency proposes to determine the review of the existing licence (Reg. No. P0236-01) granted to: **Wellman International Limited, Mullagh, Kells, County Cavan and CRO Number 31341**

under Section 90(2) of the said Acts to carry on the following activity:

- : - The manufacture of synthetic fibres

at **Wellman International Limited, Mullagh, Kells, County Cavan** subject to the following twelve Conditions, with the reasons therefor and associated schedules attached thereto.

Part II Schedule of Activities Refused

None of the proposed activities as set out in the licence application have been refused.

Part III Conditions

Condition 1. Scope

- 1.1 **IPPC activities at this installation shall be restricted to those listed and described in *Part I Schedule of Activities Licensed*, and shall be as set out in the licence application or as modified under Condition 1.4 of this licence and subject to the conditions of this licence.**
- 1.2 Activities at this installation shall be limited as set out in *Schedule A: Limitations*, of this licence.
- 1.3 For the purposes of this licence, the installation authorised by this licence is the area of land outlined in red labelled 'Site Location Map with National Grid', attachment 5, appendix no.3 in the IPC licence application (**licence register no. P0236-01**). Any reference in this licence to "installation" shall mean the area thus outlined in red. The licensed activity shall be carried on only within the area outlined.
- 1.4 No alteration to, or reconstruction in respect of, the activity, or any part thereof, that would, or is likely to, result in
- (i) a material change or increase in:
 - the nature or quantity of any emission;
 - the abatement/treatment or recovery systems;
 - the range of processes to be carried out;
 - the fuels, raw materials, intermediates, products or wastes generated, or
 - (ii) any changes in:
 - site management, infrastructure or control with adverse environmental significance;
- shall be carried out or commenced without prior notice to, and without the agreement of, the Agency.
- 1.5 The installation shall be controlled, operated and maintained, and emissions shall take place as set out in the licence. All programmes required to be carried out under the terms of this licence become part of this licence.
- 1.6 This licence is for the purpose of IPPC licensing under the EPA Acts 1992 to 2012 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.
- 1.7 **This licence has been granted in substitution for the licence granted to the licensee on 8 October 1998 (Register No P0236-01). The previous IPPC licence (Reg No. P0236-01) is superseded by this revised licence.**

<i>Reason: To clarify the scope of this licence.</i>
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Condition 2. Management of the Installation

2.1 Installation Management

- 2.1.1 **The licensee shall employ a suitable qualified and experienced installation manager who shall be designated as the person in charge. The installation manager or a nominated, suitably qualified and experienced deputy shall be present on the installation at all times during its operation or as otherwise required by the Agency.**

2.1.2 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience as required and shall be aware of the requirements of this licence.

2.2 Environmental Management System (EMS)

2.2.1 The licensee shall **maintain** an Environmental Management System (EMS). The EMS shall be updated on an annual basis.

2.2.2 The EMS shall include, as a minimum, the following elements:

2.2.2.1 Management and Reporting Structure.

2.2.2.2 Schedule of Environmental Objectives and Targets.

The licensee shall **maintain** a Schedule of Environmental Objectives and Targets. The schedule shall, as a minimum, provide for a review of all operations and processes, including an evaluation of practicable options, for energy and resource efficiency, the use of cleaner technology, cleaner production and the prevention, reduction and minimisation of waste and shall include waste reduction targets. The schedule shall include time frames for the achievement of set targets and shall address a five-year period as a minimum. The schedule shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

2.2.2.3 Environmental Management Programme (EMP)

The licensee shall **maintain** an EMP, including a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2.2.2. Once agreed the EMP shall be **maintained** by the licensee. It shall include:

- designation of responsibility for targets;
- the means by which they may be achieved;
- the time within which they may be achieved.

The EMP shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

A report on the programme, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the AER. Such reports shall be retained on-site for a period of not less than seven years and shall be available for inspection by authorised persons of the Agency.

2.2.2.4 Documentation

- (i) The licensee shall **maintain** an environmental management documentation system which shall be to the satisfaction of the Agency.
- (ii) The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.2.2.5 Corrective Action

The licensee shall establish procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for persons initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined.

2.2.2.6 Awareness and Training

The licensee shall **maintain** procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.

2.2.2.7 Communications Programme

The licensee shall **maintain** a Public Awareness and Communications Programme to ensure that members of the public are informed, and can obtain information at the installation, at all reasonable times, concerning the environmental performance of the installation.

2.2.2.8 Maintenance Programme

The licensee shall establish and maintain a programme for maintenance of all plant and equipment based on the instructions issued by the manufacturer/supplier or installer of the equipment. Appropriate record keeping and diagnostic testing shall support this maintenance programme. The licensee shall clearly allocate responsibility for the planning, management and execution of all aspects of this programme to appropriate personnel (see Condition 2.1 above).

2.2.2.9 Efficient Process Control

The licensee shall establish and maintain a programme to ensure there is adequate control of processes under all modes of operation. The programme shall identify the key indicator parameters for process control performance, as well as identifying methods for measuring and controlling these parameters. Abnormal process operating conditions shall be documented, and analysed to identify any necessary corrective action.

Reason: To make provision for management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.

Condition 3. Infrastructure and Operation

3.1 The licensee shall establish and maintain, for each component of the installation, all infrastructure referred to in this licence as required by the conditions of this licence. Infrastructure specified in the application that relates to the environmental performance of the installation and is not specified in the licence, shall be installed in accordance with the schedule submitted in the application.

3.2 Installation Notice Board

3.2.1 The licensee shall, within one month of the date of grant of this licence, provide an Installation Notice Board on the installation so that it is legible to persons outside the main entrance to the installation. The minimum dimensions of the board shall be 1200 mm by 750 mm. The notice board shall be maintained thereafter.

3.2.2 The board shall clearly show:

- (i) the name and telephone number of the installation/;
- (ii) the normal hours of operation;
- (iii) the name of the licence holder;
- (iv) an emergency out of hours contact telephone number;
- (v) the licence reference number; and
- (vi) where environmental information relating to the installation can be obtained.

3.3 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the

Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.

- 3.4 **In the case of composite sampling of aqueous emissions from the operation of the installation, a separate composite sample or homogeneous sub-sample (of sufficient volume as advised) shall be refrigerated immediately after collection and retained as required for EPA use.**
- 3.5 The licensee shall **clearly label within two months from date of grant of licence** and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency. **The requirement with regard to off-site points is subject to the prior agreement of the landowner(s) concerned.**
- 3.6 Tank, Container and Drum Storage Areas
- 3.6.1 All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. **Bunds shall be designed having regard to Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2004).**
- 3.6.2 All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:
- (i) 110% of the capacity of the largest tank or drum within the bunded area; or
 - (ii) 25% of the total volume of substance that could be stored within the bunded area.
- 3.6.3 **All drainage from bunded areas shall be treated as contaminated unless it can be demonstrated to be otherwise.** All drainage from bunded areas shall be diverted for collection and safe disposal, **unless it can be deemed uncontaminated and does not exceed the trigger levels set for storm water emissions under Condition 6.14.**
- 3.6.4 **All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.**
- 3.6.5 **All tanks, containers and drums shall be labelled to clearly indicate their contents.**
- 3.7 The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the installation. **Once used, the absorbent material shall be disposed of at an appropriate facility.**
- 3.8 **Oil Separators**
- The licensee shall maintain oil separators at the installation:
- (i) **The separator shall be a Class I full retention separator.**
- The separator shall be in accordance with I.S. EN-858-2: 2003 (separator systems for light liquids) or as agreed with the Agency.**
- 3.9 **Fire-water Retention**
- 3.9.1 The licensee shall maintain the fire-water retention facilities on-site (**completed under licence register P0236-01**).
- 3.9.2 In the event that a significant risk exists for the release of contaminated fire-water, the licensee shall implement, with the agreement of the Agency, the risk management programme for firewater and spillages (**completed under licence register no P0236-01**).
- 3.9.3 In the event of a fire or a spillage to storm water, the site storm water shall be diverted to the firewater lagoons. **The licensee shall examine the provision of automatic diversion of storm water to the firewater lagoons. The licenses shall have regard to any guidelines issued by the Agency with regard to firewater retention.**
- 3.9.4 The licensee shall have regard to the Environmental Protection Agency Draft Guidance Note to Industry on the Requirements for Fire-Water Retention Facilities when implementing Conditions **3.9.1, 3.9.2 and 3.9.3** above.

- 3.10 All pump sumps, **storage tanks, lagoons** or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separators, shall be fitted with high liquid level alarms (or oil detectors as appropriate) **within six months from the date of grant of this licence.**
- 3.11 The provision of a catchment system to collect any leaks from flanges and valves of all over-ground pipes used to transport material other than water shall be examined. This shall be incorporated into a Schedule of Environmental Objectives and Targets set out in Condition 2. of this licence for the reduction in fugitive emissions.
- 3.12 **All wellheads shall be adequately protected to prevent contamination or physical damage.**
- 3.13 The licensee shall **maintain** in a prominent location on the site a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the site.
- 3.14 Natural gas or biodiesel meeting CEN standard EN14214 shall be used in the boilers on site. In the event of an interruption to the supply of natural gas or biodiesel, an alternative fuel such as gas oil may be used with the prior written agreement of the Agency.

Reason: To provide for appropriate operation of the installation to ensure protection of the environment.

Condition 4. Interpretation

- 4.1 Emission limit values for emissions to atmosphere in this licence shall be interpreted in the following way:
- 4.1.1 Continuous Monitoring
- (i) No 24 hour mean value shall exceed the emission limit value.
 - (ii) 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 times the emission limit value.
 - (iii) No 30 minute mean value shall exceed twice the emission limit value.
- 4.1.2 Non-Continuous Monitoring
- (i) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.
 - (ii) For flow, no hourly or daily mean value, calculated on the basis of appropriate spot readings, shall exceed the relevant limit value.
 - (iii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
 - (iv) Mass flow thresholds refer to a rate of discharge expressed in units of kg/h, above which the concentration emission limit value applies. Mass flow threshold rates shall be determined on the basis of a single 30 minute measurement (i.e. the concentration determined as a 30 minute average shall be multiplied by an appropriate measurement of flow and the result shall be expressed in units of kg/h).
 - (v) Mass flow limits shall be calculated on the basis of the concentration, determined as an average over the specified period, multiplied by an appropriate measurement of flow. No value, so determined, shall exceed the mass flow limit value.
- 4.2 The concentration and volume flow limits for emissions to atmosphere specified in this licence **shall be achieved without the introduction of dilution air** and shall be based on gas volumes under standard conditions of:

- 4.2.1 From non-combustion sources:
Temperature 273K, Pressure 101.3 kPa (no correction for oxygen or water content).
- 4.2.2 From combustion sources:
Temperature 273K, Pressure 101.3 kPa, dry gas; 3% oxygen for liquid and gas fuels, 6% oxygen for solid fuels.
- 4.3 Emission limit values for emissions to waters in this licence shall be interpreted in the following way:
- 4.3.1 Continuous Monitoring
- (i) No flow value shall exceed the specific limit.
 - (ii) No pH value shall deviate from the specified range.
 - (iii) No temperature value shall exceed the limit value.
- 4.3.2 **Composite Sampling**
- (i) No pH value shall deviate from the specified range.
 - (ii) For parameters other than pH and flow, eight out of ten consecutive composite results, based on flow proportional composite sampling, shall not exceed the emission limit value. **No individual results similarly calculated shall exceed 1.2 times the emission limit value.**
- 4.3.3 Discrete Sampling
- For parameters other than pH and temperature and flow, no grab sample value shall exceed 1.2 times the emission limit value.
- 4.4 Where the ability to measure a parameter is affected by mixing before emission, then, with agreement from the Agency, the parameter may be assessed before mixing takes place.
- 4.5 Noise
- Noise from the installation shall not give rise to sound pressure levels ($L_{eq,T}$) measured at the NSLs (with the exception of N2) of the installation which exceed the limit value(s) by more than 2 dB(A).

Reason: To clarify the interpretation of limit values fixed under the licence.

Condition 5. Emissions

- 5.1 No specified emission from the installation shall exceed the emission limit values set out in *Schedule B: Emission Limits*, of this licence. There shall be no other emissions of environmental significance.
- 5.2 No emissions, including odours, from the activities carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary.
- 5.3 No substance shall be discharged in a manner, or at a concentration, that, following initial dilution, causes tainting of fish or shellfish.
- 5.4 Boilers shall be operated so as to give a smoke colour less than or equal to shade number 1 on the Ringelmann chart except during periods of start-up and soot blowing. Such start up periods shall not exceed 30 minutes in any 24 hour period.
- 5.5 The combined discharge shall not alter the temperature of the receiving water by 1.5° C outside the mixing zone. **In relation to temperature, the mixing zone shall not exceed 25% of the cross sectional area of the river at any point.**

Reason: *To provide for the protection of the environment by way of control and limitation of emissions.*

Condition 6. Control and Monitoring

6.1 Test Programme

- 6.1.1 The licensee shall prepare to the satisfaction of the Agency, a test programme for any new abatement equipment installed on site. This programme shall be submitted to the Agency in advance of implementation.
- 6.1.2 The programme, following agreement with the Agency, shall be completed within three months of the commencement of operation of the abatement equipment.
- 6.1.3 The criteria for the operation of the abatement equipment as determined by the test programme shall be incorporated into the standard operating procedures.
- 6.1.4 The test programme shall as a minimum:
 - (i) establish all criteria for operation, control and management of the abatement equipment to ensure compliance with the emission limit values specified in this licence; and
 - (ii) assess the performance of any monitors on the abatement system and establish a maintenance and calibration programme for each monitor.
- 6.1.5 A report on the test programme shall be submitted to the Agency within one month of completion.

6.2 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with *Schedule C: Control & Monitoring*, of this licence.

- 6.2.1 Analyses shall be undertaken by competent staff in accordance with documented operating procedures.
- 6.2.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics shall be determined.
- 6.2.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.
- 6.2.4 Where any analysis is sub-contracted it shall be to a competent laboratory.

6.3 The licensee shall ensure that:

- (ii) sampling and analysis for all parameters listed in the Schedules to this licence; and
- (iii) any reference measurements for the calibration of automated measurement systems;

shall be carried out in accordance with CEN-standards. If CEN standards are not available, ISO, national or international standards that will ensure the provision of data of an equivalent scientific quality shall apply.

- 6.4 All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the activity is being carried on unless alternative sampling or monitoring has been agreed in writing by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable and alternative sampling and monitoring facilities shall be put in place. The use of alternative equipment, other than in emergency situations, shall be as agreed by the Agency.
- 6.5 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission/discharge (or ambient conditions where that is the monitoring objective).

- 6.6 The licensee shall ensure that groundwater monitoring well sampling equipment is available/installed on-site and is fit for purpose at all times. The sampling equipment shall be to Agency specifications.
- 6.7 All treatment/abatement and emission control equipment shall be calibrated and maintained in accordance with the instructions issued by the manufacturer/supplier or installer.
- 6.8 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the agreement of the Agency following evaluation of test results.
- 6.9 The licensee shall prepare a programme, to the satisfaction of the Agency, for the identification and reduction of fugitive emissions using an appropriate combination of best available techniques. This programme shall be included in the Environmental Management Programme.
- 6.10 The integrity and water tightness of all **underground pipes, tanks**, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee. This testing shall be carried out by the licensee at least once every three years and reported to the Agency on each occasion. **This testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.**
- 6.11 The drainage system (i.e., gullies, manholes, any visible drainage conduits and such other aspects as may be agreed) and bunds and oil separators shall be inspected weekly and desludged as necessary. All sludge and drainage from these operations shall be collected for safe disposal. The drainage system, bunds, and oil interceptors shall be properly maintained at all times.
- 6.12 Within eighteen months of the date of this licence, the licensee shall, in line with the criteria set out in the *Guidance on the Authorisation of Discharges to Groundwater*, published by the Environmental Protection Agency, review the most relevant hydrogeological assessment report for the installation or where relevant, arrange for an assessment of the installation, by an appropriately qualified consultant/professional, to demonstrate compliance with the European Communities Environmental Objectives (Groundwater) Regulations 2010, S.I. No 9 of 2010. A report on the review or assessment report with recommendations, shall be included in the next AER. Further to the hydrogeological review or assessment, any actions (including the setting of groundwater compliance values, if appropriate) required to demonstrate compliance with the European Communities Environmental Objectives (Groundwater) Regulations 2010, shall be implemented before 22nd December 2015.
- 6.13 No oils, fats or greases or other debris shall be visible in the final effluent.
- 6.14 An inspection for leaks on all flanges and valves on over-ground pipes used to transport materials other than water shall be carried out weekly. A log of such inspections shall be maintained.
- 6.15 Storm Water
- 6.15.1 A visual examination of the storm water discharges shall be carried out daily. A log of such inspections shall be maintained.
- 6.15.2 The licensee shall establish suitable trigger levels for pH, Conductivity, COD and TOC in storm water discharges, such that storm waters exceeding these levels will be diverted for retention and suitable disposal. The licensee shall have regard to the Environmental Protection Agency "Guidance on the setting of trigger values for storm water discharges to off-site surface waters at EPA IPPC and Waste licensed facilities" when establishing the suitable trigger levels.
- 6.16 Noise
- The licensee shall carry out a noise survey of the site operations annually. The survey programme shall be undertaken in accordance with the methodology specified in the

'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)' as published by the Agency.

6.17 Pollutant Release and Transfer Register (PRTR)

The licensee shall prepare and report a PRTR for the site. The substance and/or wastes to be included in the PRTR shall be as agreed by the Agency each year by reference to EC Regulations No. 166/2006 concerning the establishment of the European Pollutant Release and Transfer Register. The PRTR shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted electronically in specified format and as part of the AER.

6.18 All equipment, including backup equipment, specified in *Schedule C.1.1 Control of emissions to air* of this licence shall be provided on-site. All treatment/abatement, control and monitoring equipment shall be calibrated and maintained when in use, in accordance with the information submitted in Table 12A(iv) of the IPC licence application (**licence register no P0236-01**) or as otherwise approved by the Agency under the Environmental Management Programme. The criteria for the operation of the abatement equipment as determined by the test programme (**see Condition 6.1**), shall be incorporated into the standard operating procedures as approved by the Agency in *Schedule C.1.1 Control of emissions to air*.

Reason: *To provide for the protection of the environment by way of treatment and monitoring of emissions.*

Condition 7. Resource Use and Energy Efficiency

7.1 The licensee shall **repeat the energy efficiency audit of the site as required by the Agency**. The audit shall be carried out in accordance with the guidance published by the Agency, "Guidance Note on Energy Efficiency Auditing". The energy efficiency audit shall be repeated at intervals as required by the Agency.

7.2 The audit shall identify all practicable opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2 above.

7.3 **The licensee shall identify opportunities for reduction in the quantity of water used on site including recycling and reuse initiatives, wherever possible. Reductions in water usage shall be incorporated into Schedule of Environmental Objectives and Targets.**

7.4 **The licensee shall undertake an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated. The assessment should take account of best international practice for this type of activity. Where improvements are identified, these shall be incorporated into the Schedule of Environmental Objectives and Targets.**

Reason: *To provide for the efficient use of resources and energy in all site operations.*

Condition 8. Materials Handling

8.1 Disposal or recovery of waste on-site shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.

8.2 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported from the site of the activity to the site of recovery/disposal only in a manner that will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.

- 8.3 The licensee shall ensure that, in advance of transfer to another person, waste shall be classified, packaged and labelled in accordance with National, European and any other standards which are in force in relation to such labelling.
- 8.4 The loading and unloading of materials shall be carried out in designated areas protected against spillage and leachate run-off. While awaiting disposal, all materials shall be collected and stored in designated areas protected against spillage and leachate run-off.
- 8.5 Waste shall be stored in designated areas, protected as may be appropriate against spillage and leachate run-off. The waste shall be clearly labelled and appropriately segregated.
- 8.6 No waste classified as green list waste in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be amended) shall be consigned for recovery without the agreement of the Agency.
- 8.7 Waste for disposal/recovery off-site shall be analysed in accordance with *Schedule C: Control & Monitoring*, of this licence.
- 8.8 Unless approved in writing, in advance, by the Agency the licensee is prohibited from mixing a hazardous waste of one category with a hazardous waste of another category or with any other non-hazardous waste.
- 8.9 The licensee shall neither import waste into the State nor export waste out of the State except in accordance with the relevant provisions of Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14th June 2006 on shipments of waste and associated national regulations.

Reason: To provide for the appropriate handling of material and the protection of the environment.

Condition 9. Accident Prevention and Emergency Response

- 9.1 The licensee shall, within six months of date of grant of this licence, ensure that a documented Accident Prevention Procedure is in place that addresses the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary.
- 9.2 The licensee shall, ensure that a documented Emergency Response Procedure is in place, that addresses any emergency situation which may originate on-site. This procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall be reviewed annually and updated as necessary.
- 9.3 Incidents
- 9.3.1 In the event of an incident the licensee shall immediately:
- (i) carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
 - (ii) isolate the source of any such emission;
 - (iii) evaluate the environmental pollution, if any, caused by the incident;
 - (iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
 - (v) identify the date, time and place of the incident;
 - (vi) notify the Agency and other relevant authorities.
- 9.3.2 The licensee shall provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed by the Agency, to:
- (i) identify and put in place measures to avoid recurrence of the incident; and
 - (ii) identify and put in place any other appropriate remedial actions.

Reason: To provide for the protection of the environment.

Condition 10. Decommissioning & Residuals Management

- 10.1 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the site in the licensed activity, the licensee shall, to the satisfaction of the Agency, decommission, render safe or remove for disposal/recovery any soil, subsoil, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.
- 10.2 **Decommissioning Management Plan (DMP)**
- 10.2.1 The licensee shall prepare, to the satisfaction of the Agency, a fully detailed and costed plan for the decommissioning or closure of the site or part thereof. This plan shall be submitted to the Agency for agreement within six months of the date of grant of the licence.
- 10.2.2 The plan shall be reviewed annually and proposed amendments thereto notified to the Agency for agreement as part of the AER. No amendments may be implemented without the agreement of the Agency.
- 10.2.3 The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision when implementing Condition 10.2.1 above.
- 10.3 The Decommissioning Management Plan shall include, as a minimum, the following:
- (i) a scope statement for the plan;
 - (ii) the criteria that define the successful decommissioning of the activity or part thereof, which ensures minimum impact on the environment;
 - (iii) a programme to achieve the stated criteria;
 - (iv) where relevant, a test programme to demonstrate the successful implementation of the decommissioning plan; and
 - (v) details of the costings for the plan and the financial provisions to underwrite those costs.
- 10.4 A final validation report to include a certificate of completion for the Decommissioning Management Plan, for all or part of the site as necessary shall be submitted to the Agency within three months of execution of the plan. The licensee shall carry out such tests, investigations or submit certification, as requested by the Agency, to confirm that there is no continuing risk to the environment.

Reason: To make provision for the proper closure of the activity ensuring protection of the environment.

Condition 11. Notification, Records and Reports

- 11.1 The licence shall notify the Agency by both telephone and facsimile, if available, to the Agency's headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:
- (i) any release of environmental significance to atmosphere from any potential emissions point including bypasses;
 - (ii) any emission that does not comply with the requirements of this licence;
 - (iii) any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control and Monitoring*, of this licence which is likely to lead to loss of control of the abatement system; and

- (iv) any incident with the potential for environmental contamination of surface water or groundwater, or posing an environmental threat to air or land, or requiring an emergency response by the Local Authority.

The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions.

- 11.2 In the event of any incident which relates to discharges to sewer having taken place, the licensee shall notify the Local and Water Services Authority as soon as practicable after such an incident.
- 11.3 In the case of any incident relating to discharges to water, the licensee shall notify the Local and Water Services Authority, **the National Parks and Wildlife Service** and Inland Fisheries Ireland as soon as practicable after such an incident.
- 11.4 The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to manage the incident, minimise wastes generated and the effect on the environment, and avoid recurrence. The licensee shall, as soon as practicable following incident notification, submit to the Agency the incident record.
- 11.5 The licensee shall record all complaints of an environmental nature related to the operation of the activity. **Each such record shall give details of the date and time of the complaint, the name of the complainant (if provided), and give details of the nature of the complaint. A record shall also be kept of the response made in the case of each complaint.**
- 11.6 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence **and all other such monitoring which relates to the environmental performance of the installation.**
- 11.7 The licensee shall as a minimum keep the following documents at the site:
 - (i) **the licences relating to the installation;**
 - (ii) **the current EMS for the installation;**
 - (iii) **the previous year's AER for the installation;**
 - (iv) **records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the installation;**
 - (v) **relevant correspondence with the Agency;**
 - (vi) **up-to-date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points;**
 - (vii) **up-to-date Standard Operational Procedures for all processes, plant and equipment necessary to give effect to this licence or otherwise to ensure that standard operation of such processes, plant or equipment does not result in unauthorised emissions to the environment;**
 - (viii) **any elements of the licence application or EIS documentation referenced in this licence.**

This documentation shall be available to the Agency for inspection at all reasonable times.
- 11.8 The licensee shall submit to the Agency, by the 31st March of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule D: Annual Environmental Report*, of this licence and shall be prepared in accordance with any relevant guidelines issued by the Agency.
- 11.9 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall as a minimum contain details of the following:
 - (i) the tonnages and EWC Code for the waste materials imported and/or sent off-site for disposal/recovery;

- (ii) the names of the agent and carrier of the waste, and their waste collection permit details, if required (to include issuing authority and vehicle registration number);
 - (iii) details of the ultimate disposal/recovery destination facility for the waste **and its appropriateness to accept the consigned waste stream, to include its permit/licence details and issuing authority, if required;**
 - (iv) written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site;
 - (v) **details of all waste consigned abroad for Recovery and classified as 'Green' in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be amended). The rationale for the classification must form part of the record;**
 - (vi) **details of any rejected consignments;**
 - (vii) **details of any approved waste mixing;**
 - (viii) the results of any waste analyses required under *Schedule C: Control & Monitoring*, of this licence; and
 - (ix) the tonnage and EWC Code for the waste materials recovered/disposed on-site.
- 11.10 The licensee shall submit report(s) as required by the conditions of this licence to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency.
- 11.11 All reports shall be certified accurate and representative by the installation manager or a nominated, suitably qualified and experienced deputy.

Reason: *To provide for the collection and reporting of adequate information on the activity.*

Condition 12. Financial Charges and Provisions

12.1 Agency Charges

- 12.1.1 The licensee shall pay to the Agency an annual contribution of **€6996.36** or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Environmental Protection Agency Acts 1992 to 2012. The first payment shall be a pro-rata amount for the period from the date of grant of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of grant of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Environmental Protection Agency Acts 1992 to 2012, and all such payments shall be made within one month of the date upon which demanded by the Agency.
- 12.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased, the licensee shall contribute such sums as determined by the Agency to defray its costs in regard to items not covered by the said annual contribution.

12.2 Environmental Liabilities

- 12.2.1 The licensee shall as part of the AER, provide an annual statement as to the measures taken or adopted at the site in relation to the prevention of environmental damage, and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events or accidents/incidents, as may be associated with the carrying on of the activity.
- 12.2.2 The licensee shall arrange for the completion, by an independent and appropriate qualified consultant, of a comprehensive and fully costed

Environmental Liabilities Risk Assessment (ELRA) which addresses the liabilities from past and present activities. The assessment shall include those liabilities and costs identified in Condition 10 for execution of the DMP. A report on this assessment shall be submitted to the Agency for agreement within twelve months of date of grant of this licence. The ELRA shall be reviewed as necessary to reflect any significant change on site, and in any case every three years following initial agreement. Review results are to be notified as part of the AER.

- 12.2.3 As part of the measures identified in Condition 12.2.1, the licensee shall, to the satisfaction of the Agency, make financial provision to cover any liabilities associated with the operation (including closure, restoration and aftercare). The amount of indemnity held shall be reviewed and revised as necessary, but at least annually. Proof of renewal or revision of such financial indemnity shall be included in the annual 'Statement of Measures' report identified in Condition 12.2.1.
- 12.2.4 The licensee shall revise the cost of closure, restoration and aftercare annually and any adjustments shall be reflected in the financial provision made under Condition 12.2.3.
- 12.2.5 The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision when implementing Conditions 12.2.2 and 12.2.3 above.

<p><i>Reason: To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.</i></p>
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SCHEDULE A: Limitations

There are no limitations on the installation specified in the Schedule

**SCHEDULE B: Emission Limits****B.1 Emissions to Air**

Spinning Tower Monomer Exhausts

Location: Spinning Tower.

Emission Point Reference Nos.:	Minimum Discharge Height (m above ground)	Max Vol. in any one day (m ³ /d)	Max. Rate per hour (m ³ /h)
A2-2	17.83	408,000	17,000
A2-3	17.83	408,000	17,000
A2-5	20.73	408,000	17,000
A2-6	19.2	408,000	17,000
A2-8	17.83	555,600	23,150
A2-12	20.27	555,600	23,150

Parameter	Emission Limit Value
TA Luft Organics Class I	20 mg/m ³ (at mass flows > 0.1 kg/h)
TA Luft Organics Class II	100 mg/m ³ (at mass flows > 2 kg/h)
TA Luft Organics Class III	150 mg/m ³ (at mass flows > 3 kg/h)



Emission Point Reference No's.: A2-10 and A2-11
Location : Roof of Sort and Prep Department

Minimum discharge height: 6 m above ground

Parameter	Emission Limit Value
TA Luft Organics Class I	20 mg/m ³ (at mass flows>0.1kg/h)
TA Luft Organics Class II	100 mg/m ³ (at mass flows>2kg/h)
TA Luft Organics Class III	150 mg/m ³ (at mass flows>3kg/h)

Emission Point Reference No.: A2-13
Location : Roof of Sort and Prep Department

Volume to be emitted: Maximum in any one day : 87,384 m³
Maximum rate per hour : 3,641 m³

Minimum discharge height: 6.33 m above ground

Parameter	Emission Limit Value
General Dusts	150 mg/m ³ (at mass flows<0.5kg/h) 50 mg/m ³ (at mass flows>0.5kg/h)

Emission Point Reference No.: A2-27
Location : Rosin Dryers Scrubber Exhaust

Volume to be emitted: Maximum in any one day : 144,000 m³
Maximum rate per hour : 6,000 m³

Minimum discharge height: 20 m above ground

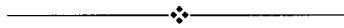
Parameter	Emission Limit Value
TA Luft Organics Class I	20 mg/m ³ (at mass flows>0.1kg/h)
TA Luft Organics Class II	100 mg/m ³ (at mass flows>2kg/h)
TA Luft Organics Class III	150 mg/m ³ (at mass flows>3kg/h)

Emission Point Reference No.: A2-28

Location : Spinning Tower.

Minimum discharge height: 20 m above ground

Parameter	Emission Limit Value
TA Luft Organics Class I	20 mg/m ³ (at mass flows>0.1kg/h)
TA Luft Organics Class II	100 mg/m ³ (at mass flows>2kg/h)
TA Luft Organics Class III	150 mg/m ³ (at mass flows>3kg/h)



B.2 Emissions to Water

Monitoring Location: SW1(treated effluent prior to mixing with storm water and cooling water)
Discharge Location: SWDP1
Name of Receiving Waters: Moynalty River
Volume to be emitted: Maximum in any one day: 580 m³
 Maximum in any one hour: 25 m³

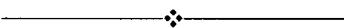
Parameter	Emission Limit Value ^{Note 1}	
Temperature	20°C °C (max)	
pH	6 – 8.5	
Toxicity	5 TU	
	Emissions limit values will apply until the 22nd December 2015 (mg/l)	Emissions limit values will apply from the 22nd December 2015 (mg/l)
BOD	18	15
Suspended Solids	18	18
Total Nitrogen	15	15
Total Ammonia (as N)	8	1
Ortho Phosphate (as P)	2	0.60
Detergents	4	4
Oils fats and greases	10	10

Note 1: All emission limit values refer to the treated effluent as sampled at monitoring point SW1



B.3 Emissions to Sewer

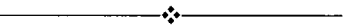
There shall be no process effluent emissions to sewer.



B.4 Noise Emissions

Daytime dB(A) L _{Aeq} (30 minutes)	Night-time dB(A) L _{Aeq} (30 minutes)
55 ^{Note 1}	45 ^{Note 1}

Note 1: There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity of any noise-sensitive location (with the exception of the noise sensitive location at N2).



SCHEDULE C: Control & Monitoring

C.1.1. Control of Emissions to Air

Emission Point Reference No's.: A2-2, A2-3, A2-5, A2-6, A2-8, A2-12 Monomer Exhausts

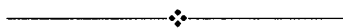
Description of Treatment: Water spray scrubbing

Monitoring:

Control Parameter	Monitoring	Monitoring Equipment
Liquid flow	Visual check	Not applicable

Equipment:

Control Parameter	Equipment	Backup Equipment
Liquid flow	Circulation pump	Spares for pump



Emission Point Reference No.: A2-13

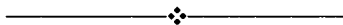
Description of Treatment: Water spray scrubbing

Monitoring:

Control Parameter	Monitoring	Monitoring Equipment
Liquid flow	Visual check	Not applicable

Equipment:

Control Parameter	Equipment	Backup Equipment
Liquid circulation	Circulation pump	Spares for pump



Emission Point Reference No.: A2-27
 Description of Treatment: Impingement scrubber

Monitoring:

Control Parameter	Monitoring	Monitoring Equipment
pH	Continuous	pH meter

Equipment:

Control Parameter	Equipment	Backup Equipment
Liquid circulation	Recirculation pump	Spares for pump
Scrubbing liquid blow down	Solenoid valve and timer	None
pH	pH meter and automatic dosing pump	Manual equipment



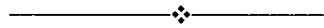
Emission Point Reference No.: A2-28
 Description of Treatment: Packed column scrubber

Monitoring:

Control Parameter	Monitoring	Monitoring Equipment
Liquid flow	Visual check	On-line flow meter

Equipment:

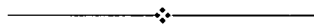
Control Parameter	Equipment	Backup Equipment
Liquid circulation	Circulation pump	Spares for pump



C.1.2. Monitoring of Emissions to Air

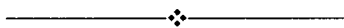
Emission Point Reference No.: A1-2

Parameter	Monitoring Frequency	Analysis Method/Technique
NOx	Annually	Flue gas analyser
CO	Annually	Flue gas analyser



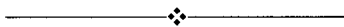
Emission Point Reference No's.: A2-2, A2-3, A2-5, A2-6, A2-8, A2-10, A2-11, A2-12, A2-27

Parameter	Monitoring Frequency	Analysis Method/Technique
TA Luft Organics Class I, II and III	Bi-annually	Adsorption and gas chromatography



Emission Point Reference No's.: A2-13, A2-14

Parameter	Monitoring Frequency	Analysis Method/Technique
Total Particulates	Bi-annually	Iso-kinetic Gravimetric Analysis



C.2.1. Control of Emissions to Water

Monitoring Point Reference No.: SW1 (treated effluent prior to mixing with storm water and cooling water)

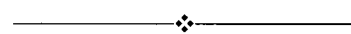
Description of Treatment: Biological Waste Water Treatment

Monitoring:

Monitoring to be Carried Out	Monitoring Frequency	Monitoring Equipment/Method
pH (exBalance Tank)	Weekly	pH Meter/Recorder
BOD (exBalance Tank)	Weekly	Standard Method
BOD (ex Biotower)	Weekly	Standard Method
Dissolved Oxygen (Aeration Basin)	Continuous	DO Meter/Recorder
BOD (Final Effluent)	Weekly	Standard Method
Flow (Final Effluent)	Continuous	Flow Meter/Recorder
pH (Final Effluent)	Continuous	pH Meter/Recorder
Mixed Liquor Suspended Solids	Daily	Standard Methods
Sludge Volume Index	Daily	Standard Methods

Equipment:

Control Parameter	Equipment	Backup Equipment
Effluent Transfer	Submersible Pump	Standby pump and spare held on site
Dissolved Oxygen	Aerator Fixed DO Meter	Spare parts held on site Portable DO Meter
Suspended Solids	Sludge transfer pumps	Spare held on site
Sludge Dewatering	Belt hydropress	Spare parts held on site



C.2.2. Monitoring of Emissions to Water

Monitoring Point Reference No: SW1 (treated effluent prior to mixing with storm water and cooling water)

Control Parameter	Monitoring Frequency	Key Equipment/Technique
Flow	Continuous Daily ^{Note 1}	On-line flow meter with recorder
pH	Continuous	pH electrode/meter with recorder
Chemical Oxygen Demand	Weekly ^{Note 2}	Standard Method
Biochemical Oxygen Demand	Weekly ^{Note 2}	Standard Method
Suspended Solids	Weekly ^{Note 2}	Standard Method
Total Ammonia (as N)	Monthly	Standard Method
Ortho phosphorus (as P)	Monthly ^{Note 2}	Standard Method
Priority Substances ^{Note 3}	Annually	Standard Method
Oils, fats and greases	Weekly	Standard Method
Toxicity ^{Note 4}	As may be required	To be agreed by the Agency

Note 1: Total effluent discharged over the 24 hour period in which the composite sample is collected shall be recorded.

Note 2: All samples shall be collected on a 24 hour flow proportional composite sampling basis.

Note 3: The relevant priority substances or pollutants for monitoring shall be identified by the licensee by undertaking a risk based assessment. The Licensee shall have regard to "Guidance on the Screening for Priority Substances for Waste Water Discharge Licences" issued by the Agency. Monitoring for the identified priority substances or pollutants shall be carried out at least annually, unless a case for less frequent monitoring is agreed by the Agency.

Note 4: The number of toxic units (Tu) = 100/x hour EC/LC₅₀ in percentage vol/vol so that higher Tu values reflect greater levels of toxicity. For test regimes where species death is not easily detected, immobilisation is considered equivalent to death.

Monitoring Point Reference No.: M/000/S (Combined discharge- SWDP1)

Monitoring location: 271561E, 285137N

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Monthly	pH electrode/meter
Temperature	Weekly	Thermometer
COD	Monthly	Standard Method
Total Ammonia	Monthly	Standard Method
Conductivity	Monthly	Standard Method
Visual	Weekly	Standard Method

C.2.3. Monitoring of Storm Water Emissions

Emission Point Reference No:

SWDP2 (270380E, 285230N)

Monitoring Point:

M/235/S (270400E, 285230N) and any other location that may be agreed with the Agency.

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Monthly	Standard method
Temperature	Monthly	Standard method
COD	Monthly	Standard method
Total Ammonia	Monthly	Standard method
Conductivity	Monthly	Standard method
Visual Inspection	Weekly	Sample and examine for colour and odour.

**C.3.1. Control of Emissions to Sewer**

There shall be no process effluent emissions to sewer.

**C.3.2. Monitoring of Emissions to Sewer**

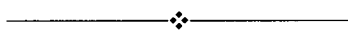
There shall be no process effluent emissions to Sewer.



C.4 Waste Monitoring

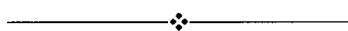
Waste Class	Frequency	Parameter	Method
Wastewater Treatment Sludges	Annually	Organic Content Heavy Metals Water Content	Loss on ignition ICP Loss on drying
Other ^{Note 1}			

Note 1: Analytical requirements to be determined on a case by case basis.



C.5 Noise Monitoring

No additional noise monitoring is required in this schedule.



C.6 Ambient Monitoring

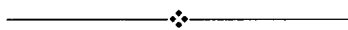
Groundwater Monitoring

Emission Point Reference No's

Location: Groundwater wells GW1 – GW2 inclusive and any other well installed at the Agency's request.

Parameter	Monitoring Frequency	Analysis Method/Techniques
pH	Biannually	pH electrode/meter
COD	Biannually	Standard Method
Nitrate	Biannually	Standard Method
Total Nitrogen	Biannually	Standard Method
Conductivity	Biannually	Standard Method
Chloride	Biannually	Standard Method
Hazardous Substances ^{Note 1}	Biannually	Standard Method

Note 1: The relevant hazardous substances for monitoring in groundwater shall be identified by the licensee by undertaking a risk based assessment. The Licensee shall have regard to the 'Classification of Hazardous and Non-hazardous Substances in Groundwater' issued by the Agency. Monitoring for the identified hazardous substances shall be carried out at least biannually, unless a case for less frequent monitoring is agreed by the Agency.



SCHEDULE D: Annual Environmental Report

Annual Environmental Report Content ^{Note 1}
<p>Emissions from the installation.</p> <p>Waste management record.</p> <p>Resource consumption summary.</p> <p>Complaints summary.</p> <p>Schedule of Environmental Objectives and Targets.</p> <p>Environmental management programme – report for previous year.</p> <p>Environmental management programme – proposal for current year.</p> <p>Pollutant Release and Transfer Register – report for previous year.</p> <p>Pollutant Release and transfer Register – proposal for current year.</p> <p>Noise monitoring report summary.</p> <p>Ambient monitoring summary.</p> <p>Tank and pipeline testing and inspection report.</p> <p>Reported incidents summary.</p> <p>Energy efficiency audit report summary.</p> <p>Report on the assessment of the efficiency of use of raw materials in processes and the reduction in waste generated.</p> <p>Report on progress made and proposals being developed to minimise water demand and the volume of trade effluent discharges.</p> <p>Review of decommissioning management plan.</p> <p>Statement of measures in relation to prevention of environmental damage and remedial actions (Environmental Liabilities).</p> <p>Environmental Liabilities Risk Assessment Review (every three years or more frequently as dictated by relevant on-site change including financial provisions).</p> <p>Any other items specified by the Agency.</p>

Note 1: Content may be revised subject to the agreement of the Agency.

Sign off for Proposed Determinations/Decisions

Signed on behalf of the said Agency _____

On the xx day of xxxxx, 200X xxxxxxxxxxxx **Authorised Person**

