Headquarters,
Johnstown Castle Estate,
County Wexford, Ireland

INTEGRATED POLLUTION CONTROL
PROPOSED DETERMINATION OF A REVISED LICENCE

Licence Register Number:	495
Licensee:	Irish Fertilizer Industries Limited.
Location of Activity:	Arklow, Co. Wicklow.

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Glossary of Terms

The Agency	Environmental Protection Agency.
The Licensee	Irish Fertiliser Industries Limited., P.O. Box 4, Arklow, Co. Wicklow.
Location of Activity	Arklow, Co. Wicklow
AER	Annual Environmental Report.
Annually	All or part of a period of twelve consecutive months.
BATNEEC	Best Available Technology Not Entailing Excessive Cost.
Biannually	All or part of a period of six consecutive months.
BOD	5 day Biochemical Oxygen Demand.
COD	Chemical Oxygen Demand.
Daily	During all days of plant operation, and in the case of emissions, when emissions are taking place; with no more than 1 measurement on any one day.
Day	Any 24 hour period.
Daytime	0800 hrs to 2200 hrs.
dB(A)	Decibels (A weighted).
DO	Dissolved Oxygen.
EMP	Environmental Management Programme.
EPA	Environmental Protection Agency
EWC	European Waste Catalogue (94/3/EEC, see also Agency Guidance Note on the EWC)
Fortnightly	At least 20 measurements in a calendar year with no more than one measurement in any one week.
HFO	Heavy Fuel Oil.
ICP	Inductively Coupled Plasma Spectroscopy.
IPC	Integrated Pollution Control.
K	Kelvin.
kPa	kilo Pascals.
Leq	Equivalent continuous sound level.

Local Authority	Wicklow County Council.
Mass Flow Limit	An Emission Limit Value which is expressed as the maximum mass of a substance which can be emitted per unit time. The limit is usually expressed in kilograms per hour (kg/h).
Mass Flow Threshold	A mass flow rate, above which, a concentration limit applies. The rate is usually expressed in kilograms per hour (e.g. at mass flow rates > 2 kg/h).
Monthly	At least 12 times per year at approximately monthly intervals.
Night-time	2200 hrs to 0800 hrs.
Noise sensitive location	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
PER	Pollution Emission Register.
ppm	Parts per million.
Quarterly	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
Standard Methods	As detailed in "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) 19th Ed. 1995, American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA.
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 (BGBI. I p.721). Federal Ministry for Environment, Bonn 1986 and amendments.
Waste disposal operation	Means any of the operations included in the Third Schedule to the Waste Management Act 1996.
Waste recovery operation	Means any of the operations included in the Fourth Schedule to the Waste Management Act 1996.
Weekly	During all weeks of plant operation, and in the case of emissions, when emissions are taking place; with no more than one measurement in any one week.
WWTP	Waste Water Treatment Plant.

Reasons for the Decision

The 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 not contravene any of the requirements of Section 83(3) of the Environmental Protection Agency Act, 1992.

In reaching this decision the Agency has considered the application and supporting documentation received from the applicant, and the report of its inspector.

Activities Licensed

In pursuance of the powers conferred on it by the Environmental Protection Agency Act, 1992, the Agency proposes to determine the review of the existing licence (Reg. No.31) granted to:

Irish Fertiliser Industries Ltd.,
P.O. Box 4.
Arklow,
Co. Wicklow

under Section 88(2) of the said Act to carry on the following activities :

The manufacture of artificial fertilisers, and
The manufacture of inorganic chemicals

at Arklow, Co. Wicklow, subject to the following Conditions (15 No.), with the reasons therefor and associated schedules attached thereto.

Conditions

Condition 1. Scope

1.1 The activity shall be controlled, operated, and maintained and emissions shall take place as set out in this Integrated Pollution Control (IPC) licence. All programmes required to be carried out under the terms of this licence, become part of this licence.

1.2 No alteration to, or reconstruction in respect of, the activity or any part thereof which would, or is likely to, result in a material change or increase in:

1.2.1 The nature or quantity of any emission,

1.2.2 The abatement/treatment or recovery systems,

1.2.3 The range of processes to be carried out,

1.2.4 The fuels, raw materials, intermediates, products or wastes generated,

or any changes in:

1.2.5 The site management and control with adverse environmental significance

shall be carried out or commenced without prior notice to, and without the prior written agreement of, the Agency.

1.3 This licence is for the purposes of IPC licensing under the EPA Act, 1992 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.

1.4 Any reference in this licence to 'site' shall mean the plan area edged in broken black line and labelled 'Operations Area' as shown on drawing number U00025 in Attachment 2 of the IPC licence review application.

1.5 This licence has been granted in substitution for the IPC licence granted to the licensee on 30th January 1997 and bearing Register No: 31. The previous IPC licence (Reg. No. 31) is replaced by this revised licence.

Reason: To clarify the scope of this licence.

Condition 2. Management of the Activity

2.1 The licensee shall maintain an Environmental Management System (EMS) which shall fulfil the requirements of this licence. The EMS shall assess all operations and review all practicable options for the use of cleaner technology, cleaner production and the reduction and minimisation of waste, and shall include as a minimum those elements specified in the Conditions 2.2 to 2.9 below:

2.2 A schedule of Environmental Objectives and Targets

2.2.1 The licensee shall prepare a schedule of Environmental Objectives and Targets. The schedule shall include time frames for the achievement of set targets. The schedule 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) (See also Condition 2.9).

2.2.2 The licensee shall have regard to those matters listed in *Schedule 6(i) Recording & Reporting to the Agency* when establishing the schedule of Objectives and Targets.

2.3 Environmental Management Programme (EMP)

2.3.1 The licensee shall, not later than six months from the date of grant of this licence, submit to the Agency for agreement an EMP, including a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2. Once agreed the EMP shall be established and maintained by the licensee. It shall include:

(i) designation of responsibility for targets;

(ii) the means by which they may be achieved;

(iii) 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) (Condition 2.9).

2.3.2 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.

2.4 Pollution Emission Register (PER)

2.4.1 The substances to be included in the PER shall be agreed with the Agency each year by reference to the list specified in the AER guidance note. The PER shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted as part of the AER.

2.4.2 The licensee shall, not later than six months from the date of grant of this licence and thereafter as part of the AER, agree with the Agency the list of substances to be included in the PER, and the methodology to be used in their determination.

2.5 Documentation

2.5.1 The licensee shall establish and maintain an environmental management documentation system which shall be to the satisfaction of the Agency.

2.5.2 The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.6 Corrective Action

2.6.1 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 initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined.

2.7 Awareness and Training

2.7.1 The licensee shall establish and 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.

2.7.2 Personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and/or experience, as required.

2.8 Responsibilities

2.8.1 The licensee shall ensure that a person in charge, as defined under the terms of the Environmental Protection Agency Act, 1992 shall be available on-site at all times when the activity is in operation. The person in charge shall also be available to meet with authorised persons of the Agency at all reasonable times.

2.9 Communications

2.9.1 The licensee shall maintain a programme to the satisfaction of the Agency, to ensure that members of the public can obtain information concerning the environmental performance of the licensee at all reasonable times.

2.9.2 The licensee shall submit to the Agency each calendar year an AER which shall be to the satisfaction of the Agency. This report shall include as a minimum the information specified in *Schedule 6(i) Recording & Reporting to the Agency* and shall be prepared in accordance with any relevant guidelines issued by the Agency.

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. Interpretation

3.1 Emission limit values for emissions to atmosphere in this licence shall be interpreted in the following way:-

3.1.1 Continuous Monitoring:

3.1.1.1 No 24 hour mean value shall exceed the emission limit value.

(i) 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 times the emission limit value.

(ii) No 30 minute mean value shall exceed twice the emission limit value.

(iii) For emission point reference numbers NA4 and NA5, no 30 minute mean shall exceed five times the emission limit value during periods of start-up or shutdown for the nitric acid plants.

3.1.2 For 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.

3.2 The concentration 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 :-

3.2.1 In the case of non-combustion gases:

(i) Temperature 273K, Pressure 101.3 kPa (no correction for oxygen or water content).

3.2.2 In the case of combustion gases:

(i) Temperature 273K, Pressure 101.3 kPa, dry gas; 3% oxygen for liquid and gas fuels; 6% oxygen for solid fuels.

3.3 Emission limit values for emissions to waters in this licence shall be interpreted in the following way:-

3.3.1 Continuous monitoring (For emissions until August 31, 2001) :

3.3.1.1 of all daily and hourly flow rates shall not exceed the limit values.

3.3.1.2 No pH value shall deviate from the specified range.

3.3.1.3 No temperature value shall exceed the limit value.

3.3.2 Non-Continuous Monitoring (For emissions until August 31, 2001):

3.3.2.1 No pH value shall deviate from the specified range.

3.3.2.2 No daily or hourly flow value shall exceed twice the emission limit value.

3.3.2.3 No temperature value shall exceed the limit value.

3.3.2.4 For parameters other than pH, temperature and flow, eight out of ten consecutive results, calculated as daily mean concentration or mass emission values on the basis of flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed twice the emission limit value.

3.3.2.5 No monthly mean value shall exceed the monthly emission limit value.

3.3.2.6 No grab sample shall exceed twice the daily mean concentration value.

3.3.3 Continuous monitoring (Effective from 1st August 2001) :

(i) No flow value shall exceed the specified limit.

(ii) No pH value shall deviate from the specified range.

(iii) No temperature value shall exceed the limit value.

3.3.4 Non-Continuous Monitoring (effective from 1st August 2001) :

(i) No pH value shall deviate from the specified range.

(ii) No flow value shall exceed the specified limit.

(iii) No temperature value shall exceed the limit value.

(iv) For parameters other than pH, temperature and flow, eight out of ten consecutive results, calculated as daily mean concentration or mass emission values on the basis of flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed 1.2 times the emission limit value.

(v) For parameters other than pH, temperature, and flow, no grab sample value shall exceed 1.2 times the emission limit value.

(vi) No monthly mean value shall exceed the monthly emission limit value.

3.4 Noise

3.4.1 Non-impulsive sources:

Sound pressure levels (Leq, 15 minute) measured at the specified distance shall not exceed the emission limit value by more than 2 dB(A).

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

Condition 4. Notification

4.1 The licensee 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:

4.1.1 Any release to atmosphere from any potential emission point.

4.1.2 Any emission which does not comply with the requirements of this licence.

4.1.3 Any malfunction or breakdown of control equipment or monitoring equipment set out in;

Schedule 1(ii), and
Schedule 2(ii) Effluent Treatment Control,

which is likely to lead to loss of control of the abatement system.

4.1.4 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, details of the occurrence, and the steps taken to minimise the emissions and avoid recurrence.

4.2 The licensee shall make a record of any incident as set out in Condition 4.1 above. The notification given to the Agency shall include details of the circumstances giving rise to the incident and all actions taken to minimise the effect on the environment and minimise wastes generated.

4.3 A summary report of reported incidents shall be submitted to the Agency as part of the AER. The information contained in this report shall be prepared in accordance with any relevant guidelines issued by the Agency.

4.4 In the event of any incident, as set out in Condition 4.1.2 above which relates to discharges to sewer, having taken place, the licensee shall notify the Local Authority as soon as practicable, after such an incident.

4.5 In the case of any incident as set out in Condition 4.1.2 above which relates to discharges to water, the licensee shall notify the Eastern Regional Fisheries Board as soon as practicable after such an incident.

4.6 In the event of any incident, as set out in Condition 4.1.4 having taken place, the licensee shall notify the Local Authority as soon as practicable, after such an incident

Reason : To provide for the notification of incidents and update information on the activity.

Condition 5. Emissions to Atmosphere

5.1 No specified emission to the atmosphere shall exceed the emission limit value set out in *Schedule 1(i) Emissions to Atmosphere*, subject to Condition 3 of this licence. There shall be no other emission to the atmosphere of environmental significance.

5.2 All equipment, including backup equipment, as specified in Tables 12A(iv) of the IPC Licence Review Application 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 Tables 12A(iv) of the IPC Licence Review Application or as otherwise approved by the Agency under the Environmental Management Programme.

5.3 Monitoring and analyses of each emission shall be carried out as specified in *Schedule 1(ii) Monitoring of Emissions to Atmosphere* of this licence. A report on the results of this monitoring shall be submitted to the Agency on a monthly basis.

5.4 A summary report of emissions to atmosphere shall be submitted to the Agency as part of the AER. The information contained in this report shall be prepared in accordance with any relevant guidelines issued by the Agency.

5.5 The licensee shall not simultaneously operate all three boilers for more than 2% of the time on an annual basis. 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. Such start up periods shall not exceed 30 minutes in any 24 hour period.

5.6 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.

5.7 The licensee shall ensure that all operations on-site shall be carried out in a manner such that air emissions and/or odours do not result in significant impairment of, or significant interference with amenities or the environment beyond the site boundary.

5.8 The licensee shall prepare a programme, to the satisfaction of the Agency, for the monitoring of fugitive emissions to air. This programme shall be submitted to the Agency for agreement, within six months of the date of grant of this licence and shall be fully implemented within three months of the date of such approval or such other time as the Agency may allow.

5.9 Emissions from Emission Point Reference Numbers CAN2-A3, CAN2-A4, CAN2-A5, CAN2-A6, CAN2-A7, CAN2-A8, CAN2-A9 CAN2-A10, CAN2-A11 and CAN2-A12 shall cease permanently with effect from December 1st 1999.

5.10 The licensee shall submit a proposal to the Agency within three months of the date of grant of this licence for the reduction of NO_x emissions from emission points NA4 A1/1 and NA5 A1/1 (Nitric Acid Tail-gas Exhausts). This proposal shall include the time-

frames to be followed in order to comply with the requirements of *Schedule 1(i) Emissions to Atmosphere* of this licence.

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

Condition 6. Emissions to Water

6.1 No specified emission to water shall exceed the emission limit values set out in *Schedule 2(i) Emissions to Water* subject to Condition 3 of this licence. There shall be no other emissions to water of environmental significance.

6.2 The equipment, including backup equipment, specified in *Schedule 2(ii) Effluent Treatment Control* of this licence, shall be provided on-site. All treatment/abatement, control and monitoring equipment shall be calibrated and maintained at all times when in use, in accordance with the information submitted in Table 13A(iii) of the IPC licence review application or as otherwise approved by the Agency under the EMP.

6.3 Monitoring and analyses of each emission shall be carried out as specified in *Schedule 2(iii) Monitoring of Emissions to Water* of this licence. A report on the results of this monitoring shall be submitted to the Agency quarterly.

6.4 A summary report of emissions to water shall be submitted to the Agency as part of the AER. The information contained in this report shall be prepared in accordance with any relevant guidelines issued by the Agency.

6.5 The acute toxicity of the undiluted final effluent to the two most sensitive aquatic species (as already determined under the requirements of IPC licence Register Number 31) shall be determined by standardised and internationally accepted procedures and carried out by a competent laboratory, in accordance with *Schedule 2(iii) Emissions to Water,* and as agreed with the Agency. The Agency shall decide when this testing is to be carried out and copies of the complete reports shall be submitted by the licensee to the Agency within six weeks of completion of the testing.

6.6 No substance shall be discharged in a manner, or at a concentration which, following initial dilution, causes tainting of fish or shellfish.

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

Condition 7. Plant start-up, shut-down and upset

7.1 The licensee shall ensure that every available possibility for the prevention of increased emissions due to start-up, shut-down or emergency shut-down procedures are explored. As such the licensee shall have regard to the following operational practices which can contribute to the minimisation of emissions:

7.1.1 Minimisation of the start-up and shut-down time using interlocks and a logical operational sequence.

7.1.2 The use of long campaign catalyst for nitric acid production.

7.1.3 Application of dry material handling techniques and the minimisation of water input for calcium ammonium nitrate and ammonium nitrate equipment wash-downs.

7.1.4 Adequate preventative maintenance on all plant and equipment.

7.1.5 The use of an uninterruptable power supply for the nitric plant.

7.2 The total duration of start-up and shut-down periods for the two nitric acid plants shall not exceed two percent of the time annually.

7.3 Malfunctions or breakdowns leading to abnormal emissions shall be dealt with promptly and process operations reduced or closed down as soon as practicable until normal operation can be restored.

7.4 All operations in relation to start-up and shut-down shall be undertaken so as to minimise the noise pollution arising from such procedures.

7.5 The CAN 2 manufacturing operations shall be shut down as soon as is practicable in a manner consistent with safety and the protection of the environment when either of the following ambient conditions occur at any of the ambient monitoring stations referred to in Condition 11.9 ;

7.5.1 (i) the 98-th percentile of 24-hour average values for suspended particulates calculated as a moving average for the year to date exceeds 250 micrograms per cubic metre,

7.5.2 (ii) the 30 minute average ammonia concentration exceeds 600 micro-grams per cubic metre.

Reason: To provide for the protection of the environment from possible equipment failure and from plant start-up and shut-down.

Condition 8. Waste Management

8.1 No on-site waste recovery operation may be employed without the written agreement of the Agency.

8.2 Disposal or recovery of waste shall take place only as specified in *Schedule 3(i) Hazardous Wastes for Disposal/Recovery and Schedule 3(ii) Other Wastes for Disposal/Recovery* of this licence and in accordance with the appropriate National and European legislation and protocols. No other waste shall be disposed of/recovered either on-site or off-site without prior notice to, and prior written agreement of, the Agency.

8.3 Waste which is to be disposed of off-site shall only be conveyed to a local authority landfill site or an agreed contractor, and only transported from the site of the activity to the site of disposal in a manner which will not adversely affect the environment.

8.4 Waste sent off-site for recovery or disposal shall only be conveyed to a waste contractor, as agreed by the Agency, and only transported from the site of the activity to the site of recovery/disposal in a manner which will not adversely affect the environment.

8.5 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:

8.5.1 The names of the agent and transporter of the waste.

8.5.2 The name of the persons responsible for the ultimate disposal/recovery of the waste.

8.5.3 The ultimate destination of the waste.

8.5.4 Written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site.

8.5.5 The tonnages and EWC Code for the waste materials listed in *Schedule 3(i) Hazardous Wastes for Disposal/Recovery and Schedule 3(ii) Other Wastes for Disposal/Recovery*, sent off-site for disposal/recovery.

8.5.6 Details of any rejected consignments.

8.5.7 The tonnages and EWC Code for the waste materials *listed Schedule 3(i) Hazardous Wastes for Disposal/Recovery and Schedule 3(ii) Other Wastes for Disposal/Recovery*, recovered on-site.A copy of this Waste Management record shall be submitted to the Agency as part of the AER for the site.

8.6 Waste disposal by on-site landfill

8.6.1 Only those wastes as specified in *Schedule 3(ii) Other Waste for Disposal/Recovery* of this licence shall be permitted to be disposed of in the on-site landfill. No other waste shall be disposed in the on-site landfill without prior written agreement of the Agency.

8.6.2 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 on-site disposal of waste. This record shall contain details of the type and quantity of the waste material disposed.

8.6.3 A summary report of Waste Disposal On-site shall be submitted to the Agency as part of the AER.

8.6.4 The licensee shall have regard to all current and any future guidelines issued by the Agency with regard to landfill sites for waste disposal.

8.6.5 No new cell or operational phase of the on-site landfill may be developed without the prior written agreement of the Agency.

8.6.6 All basal, side and capping containment engineering works proposed for the landfill site, must be carried out under an Agency agreed Construction Quality Assurance (QA) Plan. This plan should comprise as a minimum the following:

8.6.6.1 QA of the design,

8.6.6.2 QA of the materials supply/manufacture/testing,

8.6.6.3 QA of placement/installation,

8.6.6.4 QA of covering,

8.6.6.5 QA Documentation.

8.6.7 No remedial pollution control/monitoring works or installations shall be effected on any part of the landfill without the prior written agreement of the Agency.

8.6.8 The licensee shall maintain a Landfill Operational Plan which has been prepared to the satisfaction of the Agency. This Plan shall apply to closed and active areas of the landfill and to new cells developed, and shall, as a minimum, address the following;

8.6.8.1 Dust control.

8.6.8.2 Surface water management and protection.

8.6.8.3 Groundwater management and protection.

8.6.8.4 Landfill gas management and disposal.

8.6.8.5 Leachate management and disposal.

8.6.8.6 Life expectancy.

8.6.8.7 Development (phasing) programme.

8.6.8.8 Capping and restoration of closed cells.

8.6.8.9 Aftercare management.

8.6.8.10 Financial provision for aftercare and,

8.6.8.11 an Environmental Monitoring Programme (scope, frequency, instrumentation, locations, design and maintenance of monitoring points, quality control, recording, protocols, assessment, reporting, procedures for non-compliance) for the following areas:

8.6.8.11.1 Surface water monitoring,

8.6.8.11.2 Groundwater monitoring,

8.6.8.11.3 Landfill gas monitoring,

8.6.8.11.4 Leachate monitoring,

8.6.8.11.5 Stability, levels and void monitoring,

8.6.8.11.6 Noise monitoring,

8.6.8.11.7 Dust monitoring,

8.6.8.11.8 Vermin and pest monitoring.

8.6.9 Landfill derived gases shall not be allowed to migrate (subterraneously) outside the boundary of the landfilled areas. The Agency must be immediately notified of any instance where >1%v/v Methane and/or >1.5%v/v Carbon Dioxide is recorded in any monitoring point external to the landfilled wastes. Such notification must be accompanied with an investigative and/or remedial strategy to identify the source of, and resolve, the migration hazard.

8.6.10 Each landfill cell must have at least three points at which leachate head, on the base of the cell, can be measured.

8.6.11 At no time must leachate head on the base of any cell (active or closed) be allowed to exceed 1m.

8.6.12 Leachate generated in the landfill facility must not result in environmental pollution as a consequence of controlled or uncontrolled migration.

8.6.13 The licensee shall submit as part of the AER a landfill status report to the Agency. This report shall contain as a minimum the elements detailed in *Schedule 3(iii) Annual Landfill Status Report* of this licence.

8.6.14 The licensee shall operate a detailed site investigation strategy incorporating a programme with reporting targets, aimed at assessing the nature and composition of wastes deposited in all formally operational areas of the landfill. The strategy shall, for all closed cells, also include for identification of the following:

8.6.14.1 Historical disposal practices,

8.6.14.2 Containment measures,

8.6.14.3 Geology and hydrogeology in the vicinity of the cells,

8.6.14.4 Capping design,

8.6.14.5 Restoration details,

8.6.14.6 Landfill gas and leachate management installations and practices,

8.6.14.7 Monitoring records,

8.6.14.8 Historical incidents of non-compliance,

8.6.14.9 Depths and extent of waste.

8.6.14.10 This strategy shall be as agreed with the Agency. The licensee should have regard to the guidance in the *Investigations for Landfills* manual published by the Agency when reviewing the scope, methodology and programme for this investigation strategy.

Reason: To provide for the disposal/recovery of waste and the protection of the environment.

Condition 9. Noise

9.1 Emissions shall not exceed the limit values specified in *Schedule 4(i) Noise*, subject to Condition 3 of this licence.

9.2 The licensee shall carry out a noise survey of the site operations annually. The licensee shall consult with the Agency on the timing, nature and extent of the survey and shall develop a survey programme to the satisfaction of the Agency. The survey programme shall be submitted to the Agency in writing at least one month before the survey is to be carried out. A record of the survey results shall be available for inspection by any authorised persons of the Agency, at all reasonable times and a summary report of this record shall be included as part of the AER.

9.3 The licensee shall maintain a programme to reduce noise emissions. This must highlight specific goals and a time scale, together with options for modification,

upgrading or replacement. The licensee shall submit a report on the progress towards the implementation of the programme to the Agency as part of the AER report.

Reason: To provide for the protection of the environment by control of noise.

Condition 10. Non-Process Water

10.1 Groundwater

10.1.1 No potentially polluting substance or matter shall be permitted to discharge to ground or groundwater under the site.

10.1.2 The licensee shall maintain groundwater monitoring wells at the following locations:

BH94/1, BH94/2, BH94/3, BH94/4, BH94/5, BH94/6, BH94/7, BH94/8, BH94/9, BH94/10, BH94/11, BH94/12, BH94/13, BH94/14, BH94/15, BH94/16, BH94/17, and,

BH97/1, BH97/2, BH97/3, BH97/4, BH97/5, BH97/6, BH97/7, BH97/8, BH97/9, BH97/10, BH97/11, BH97/12, BH97/13, BH97/14, BH97/15, BH97/16, BH97/17, BH97/18.

as outlined in the drawing entitled "Monitoring Well Locations" and included in Attachment 15C of the IPC Licence review application.

10.1.3 All groundwater monitoring points shall be included in the site's maintenance programme.

10.1.4 Groundwater monitoring points as set out in Condition 10.1.2 above be sampled and analysed in accordance with Schedule 5(i) *Groundwater Monitoring* of this licence. A report of such results shall be submitted annually as part of the AER.

10.2 Facilities for the Protection of Groundwater and Surface Water

10.2.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein. In addition, 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

(ii) 25% of the total volume of substance which could be stored within the bunded area.

Drainage from bunded areas shall be diverted for collection and safe disposal. All bunds shall be tested at least once every three years. A report on such tests shall be included in the AER.

10.2.2 The integrity and water tightness of all the bunding structures and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee to the satisfaction of the Agency and shall be reported to the Agency within one month of the date of grant of this licence and every three years thereafter.

10.2.3 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.

10.2.4 All pump sumps or other treatment plant chambers from which spillage might occur shall be fitted with high liquid level alarms.

10.2.5 The licensee carry on a programme of testing and inspection of underground tanks and pipelines to ensure that all underground effluent and foul sewer pipes are tested at least once every three years. A report on such tests shall be included in the AER.

10.2.6 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.

10.2.7 All flanges and valves on over-ground pipes used to transport materials other than uncontaminated water, where no permanent provision for containment of leaks is provided, shall be subject to weekly visual inspection or otherwise monitored for leaks to the satisfaction of the Agency. All such inspections shall be recorded in a log which shall be available for inspection by Agency.

10.2.8 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 objectives and targets for the reduction in fugitive emissions set out in Condition 2.2 of this licence.

10.2.9 All wellheads, whose locations are shown on the drawing entitled “Monitoring Well Locations” and included in Attachment 15C of the IPC Licence review application shall be adequately sealed to prevent surface contamination.

10.2.10 The licensee shall have in storage an adequate supply of containment booms and suitable absorbent material to contain and absorb any spillage.

10.2.11 The licensee shall divert all uncontaminated surface water runoff from roofs and non-contaminated impervious areas of the site, to the surface water drainage system.

10.2.12 The licensee shall ensure that all bagged fertilizer product is stored on impervious surfaces. Spills of fertilizer product in any of the product storage areas shall be cleaned up as soon as is practicable.

Reason: To provide for the protection of surface waters and groundwater.

Condition 11. Monitoring

11.1 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out in Schedules:-

Schedule 1(ii): Monitoring of Emissions to Atmosphere.

Schedule 2(ii): Effluent Treatment Control

Schedule 2(iii): Monitoring of Emissions to Water.

Schedule 4(i): Noise Monitoring.

Schedule 5(i): Groundwater Monitoring

of this licence.

11.2 The licensee shall carry on a programme, to the satisfaction of the Agency, for the identification and reduction of fugitive emissions to air. This programme shall be included in the Environmental Management Programme.

11.3 Where the ability to measure a parameter is affected by mixing before emission, then, with prior written agreement from the Agency, the parameter may be assessed before mixing takes place.

11.4 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. Prior written agreement for the use of alternative equipment, other than in emergency situations, shall be obtained from the Agency.

11.5 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission or discharge.

11.6 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the written agreement of the Agency following evaluation of test results.

11.7 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.

11.8 The licensee shall provide safe and permanent access to the following sampling and monitoring points:

11.8.1 Final effluent as discharged from the site.

11.8.2 Emission to atmosphere sampling points.

11.8.3 Noise sources on-site.

11.8.4 Waste storage areas on-site.

11.8.5 Surface waters discharge.

11.8.6 On-site ground-water monitoring wells.

and safe access to any other sampling and monitoring points required by the Agency.

11.9 The licensee shall maintain the existing ambient monitoring station for the continuous monitoring of ammonia and suspended particulates located at the back gate entrance to the activity. In addition the licensee shall maintain three additional ambient monitoring stations for the continuous monitoring of ammonia and suspended particulates at locations as agreed with the Agency.

11.10 The licensee shall operate a weather monitoring station on the site at a location agreed by the Agency, which records conditions of wind speed and wind direction.

11.11 The licensee shall maintain a wind sock in a prominent location on the site, or other wind direction indicator device which is acceptable to the Agency, which shall be visible from the public roadway outside the site.

Reason: To ensure compliance with the requirements of other conditions of this licence by provision of a satisfactory system of measurement and monitoring of emissions.

Condition 12. Recording and Reporting to Agency

12.1 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence.

12.2 The licensee shall record all incidents which affect the normal operation of the activity and which may create an environmental risk.

12.3 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 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. The licensee shall submit a report to the Agency, during the month following such complaints, giving details of any complaints which arise. A summary of the number and nature of complaints received shall be included in the AER.

12.4 The format of all records required by this licence shall be to the satisfaction of the Agency. Records shall be retained on-site for a period of not less than seven years and shall be available for inspection by the Agency at all reasonable times.

12.5 Reports of all recording, sampling, analyses, measurements, examinations, calibrations and maintenance as set out in *Schedule 6(i) Recording and Reporting to the Agency* of this licence, shall be submitted to the Agency Headquarters as specified in this licence. The format of these reports shall be to the satisfaction of the Agency. One original and three copies shall be submitted as and when specified.

12.6 Provision shall also be made for the transfer of environmental information, in relation to this licence, to the Agency's computer system, as may be requested by the Agency.

12.7 All reports shall be certified accurate and representative by the licensee's Plant Manager or other senior officer designated by the Plant Manager.

12.8 All written procedures controlling operations affecting this licence shall be available on-site for inspection by the Agency at all reasonable times.

12.9 The frequency and scope of reporting, as set out in this licence, may be amended with the written agreement of the Agency following evaluation of test results.

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

Condition 13. Emergency Response

13.1 The licensee shall within six months of the date of grant of this licence, ensure that a documented Emergency Response Procedure is in place, which shall address any emergency situation which may originate on-site. This Procedure shall include provision for minimising the effects of any emergency on the environment.

Reason: To provide for the protection of the environment.

Condition 14. Residuals Management

14.1 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 decommission, render safe or remove for disposal/recovery, any soil, subsoils, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.

14.2 Residuals Management Plan:

14.2.1 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 this licence.

14.2.2 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 written agreement of the Agency.

14.3 The Residuals Management Plan shall include as a minimum, the following:

14.3.1 A scope statement for the plan.

14.3.2 The criteria which define the successful decommissioning of the activity or part thereof, which ensures minimum impact to the environment.

14.3.3 A programme to achieve the stated criteria.

14.3.4 Where relevant, a test programme to demonstrate the successful implementation of the decommissioning plan.

14.4 A final validation report to include a certificate of completion for the residuals 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 15. Financial Provisions

15.1 Agency Charges

15.1.1 The licensee shall pay to the Agency an annual contribution of £17,691 or such sum as the Agency from time to time determines, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Environmental Protection Agency Act, 1992. The licensee shall in 2000 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Consumer Price Index from the date of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 1999, the licensee shall pay a pro rata amount from the date of this licence to December

31 1999. This amount shall be paid to the Agency within one month of the date of grant of this licence.

Reason:	*To provide for adequate financing for monitoring and financial provisions for measures to protect the environment*

Schedule 1(i) Emissions to Atmosphere

Emission Point Reference No.: CAN 1 A1

Location : CAN 1 Neutraliser Vent

Volume to be emitted: Maximum in any one day : 13,200 m^3

Maximum rate per hour : 550 m^3

Minimum discharge height: 23.5 m above ground

Parameter	Emission Limit Value	
	Until August 31, 2001	From September 1, 2001
Ammonia	8,500 mg/m^3	50 mg/m^3
Particulates	8,500 mg/m^3	50 mg/m^3

Emission Point Reference No.: CAN 1 A2

Location : CAN 1 Dryer Exhaust

Volume to be emitted: Maximum in any one day : 897,600m^3

Maximum rate per hour : 37,400m^3

Minimum discharge height: 23 m above ground

Parameter	Emission Limit Value	
	Until August 31, 2001	From September 1, 2001
Ammonia	250 mg/m^3	50 mg/m^3
Particulates	100 mg/m^3	50 mg/m^3

Emission Point Reference No.: CAN 1 A3

Location : CAN 1 Cooler Stage 1 Exhaust

Volume to be emitted: Maximum in any one day : 792,000m^3

Maximum rate per hour : 33,000m^3

Minimum discharge height: 24 m above ground

Parameter	Emission Limit Value
Ammonia	50 mg/m^3
Particulates	50 mg/m^3

Emission Point Reference No.: CAN 1 A4

Location : CAN 1 Cooler Stage 2 Exhaust

Volume to be emitted: Maximum in any one day : 792,000m^3

Maximum rate per hour : 33,000m^3

Minimum discharge height: 24 m above ground

Parameter	Emission Limit Value
Ammonia	50 mg/m^3
Particulates	50 mg/m^3

Emission Point Reference No.: CAN A1

Location : Limestone Mill Exhaust

Volume to be emitted: Maximum in any one day : 317,000m^3

Maximum rate per hour : 13,200m^3

Minimum discharge height: 20 m above ground

Parameter	Emission Limit Value
Particulates	100 mg/m^3

Emission Point Reference No.: CAN A2

Location : Gypsum/Limestone Attritor Exhaust

Volume to be emitted: Maximum in any one day : 336,000m^3

Maximum rate per hour : 14,000m^3

Minimum discharge height: 15.8 m above ground

Parameter	Emission Limit Value
Particulates	100 mg/m^3

Emission Point Reference No.: CAN 2 A2

Location : CAN 2 Process Steam Ejectors

Volume to be emitted: Maximum in any one day : 9,600 Nm^3

Maximum rate per hour : 400 Nm^3

Minimum discharge height: 21.5 m above ground

Parameter	Emission Limit Value	
	Until August 31, 2000	From September 1, 2000
Ammonia	35,000 mg/m^3	50 mg/m^3
Particulates	35,000 mg/m^3	50 mg/m^3

Emission Point Reference No.: CAN 2 A14

Location : CAN 2B Granulation plant scrubber exhaust

Volume to be emitted: Maximum in any one day : 3,840,000 Nm^3

Maximum rate per hour : 160,000 Nm^3

Minimum discharge height: 53 m above ground

Parameter	Emission Limit Value
Ammonia	50 mg/Nm^3
Particulates	50 mg/Nm^3

Emission Point Reference No.: NA4 A1/1

Location : Nitric Acid Plant 4 Tailgas Exhaust

Volume to be emitted: Maximum in any one day : 1,716,000 m^3

Maximum rate per hour : 71,500 m^3

Minimum discharge height: 65 m above ground

Parameter	Emission Limit Value	
	Until August 31, 2001	From September 1, 2001
Nitrogen dioxide	410 mg/m^3	300 mg/m^3

Emission Point Reference No.: NA5 A1/1

Location : Nitric Acid Plant 5 Tailgas Exhaust

Volume to be emitted: Maximum in any one day : 2,270,400 m^3

Maximum rate per hour : 94,600 m^3

Minimum discharge height: 66 m above ground

Parameter	Emission Limit Value	
	Until August 31, 2001	From September 1, 2001
Nitrogen dioxide	410 mg/m^3	300 mg/m^3

Emission Point Reference No.: UA A1

Location : Boiler Unit 2700 Exhaust

Volume to be emitted: Maximum in any one day : 580,800 m^3

Maximum rate per hour : 24,200 m^3

Minimum discharge height: 24 m above ground

Parameter	Emission Limit Value
Oxides of sulphur	1700 mg/m^3
Nitrogen oxides as (NO_2)	840 mg/m^3
CO	200 mg/m^3

Emission Point Reference No.: UAA2 and UAA3

Location : Boiler Unit 460A and 460B Exhaust

Volume to be emitted: Maximum in any one day : 330,000 m^3

Maximum rate per hour : 13,750 m^3

Minimum discharge height: 35 m above ground

Parameter	Emission Limit Value
Oxides of sulphur	1700 mg/m^3
Nitrogen oxides as (NO_2)	840 mg/m^3
CO	200 mg/m^3

Schedule 1(ii) Monitoring of Emissions to Atmosphere

Emission Point Reference No's.: UAA1, UAA2 and UAA3

Parameter	Monitoring Frequency	Analysis Method/Technique
Sox	Bi-annually	Flue gas analyser
Nox	Bi-annually	Flue gas analyser
CO	Bi-annually	Flue gas analyser

Emission Point Reference No's.: CAN 1A1, CAN2-A2 and CAN 2-A14

Parameter	Monitoring Frequency	Analysis Method/Technique
Particulates	Monthly	Isokinetic/gravimetric
Ammonia	Monthly	Absorption and titration

Emission Point Reference No.: CAN 1 A2, CAN 1 A3, CAN 1 A4.

Parameter	Monitoring Frequency	Analysis Method/Technique
Particulates	Continuous	PCME Particulate Emission Monitor
Ammonia	Monthly	Absorption and titration

Emission Point Reference No's.: CAN A1 and CAN A2

Parameter	Monitoring Frequency	Analysis Method/Technique
Particulates	Monthly	Isokinetic/gravimetric

Emission Point Reference No's.: NA 4 A1/A and NA 5A1/1

Parameter	Monitoring Frequency	Analysis Method/Technique
Nitrogen dioxide	Continuous	Chemiluminesence

Schedule 2(i) Emissions to Water

Emission Point Reference No.: EFF1

Name of Receiving Waters: Avoca River

Location : Final effluent discharge through riverbed diffuser (Grid reference E32292, N17469)

Volume to be emitted: Maximum in any one day : 6,850 m^3

Maximum rate per hour : 285 m^3

Parameter	Emission Limit Value			
Temperature	30°C (max.)			
pH	6-9.5 (Until August 31, 2001)			
	6-9 (From September 1, 2001)			
Toxicity	10 Tu			
	mg/l		**Kg/day**	
	Daily Mean	Monthly Mean	Daily Mean	Monthly Mean
BOD	20	-	137	-
COD	100	-	684	-
Suspended Solids	150	-	1026	-
Total Phosphates	2.0	-	14	-
Sulphates	80	-	547	-
Chlorides	300	-	2052	-
From December 1, 1999 to September 1, 2001.				
Total Ammonia (as N)	230	150	1000	600
Total Nitrates (as N)	230	150	1000	600
From September 1, 2001.				
Total Ammonia (as N)	60	45	300	175
Total Nitrates (as N)	60	45	300	175

Schedule 2(ii) Effluent Treatment Control

Emission Point Reference No.: EFF1

Description of Treatment: Settling Lagoon

Monitoring :

Monitoring to be Carried Out	Monitoring Frequency	Monitoring Equipment/Method
Flow	Continuous	Flow Meter/Recorder
Suspended solids	Continuous	Turbidity probe
Ammonia	Daily	Ammonia probe
Nitrate	Daily	Nitrate probe
pH	Continuous	pH Meter/Recorder

Equipment:

Control Parameter	Equipment	Backup equipment
Effluent Transfer **Suspended Solids**	Lift pumps Retention pond Sludge removal equipment	Standby pumps and spares held on site Standby retention capacity Spares

Schedule 2(iii) Monitoring of Emissions to Water

Emission Point Reference No.: EFF1

Parameter	Monitoring Frequency	Analysis Method/Technique
Flow	Continuous	On-line flow meter with recorder
Temperature	Continuous	On-line temperature probe with recorder
pH	Continuous	pH electrode/meter and recorder
Chemical Oxygen Demand	Daily	Standard Method Note 1
Biochemical Oxygen Demand	Monthly	Standard Method Note 1
Suspended Solids	Continuous	Turbidity meter
Total Nitrates (as N)	Daily	Standard Method Note 1
Total Ammonia (as N)	Daily	Ion selective electrode
Total Phosphate	Monthly	Standard Method Note 1
Total Heavy Metals	Bi-annually	Atomic Absorption/ICP
Chlorides	Daily	Standard Method Note 1
Sulphate	Monthly	Standard Method Note 1
Toxicity Note 2	Bi-annually (24 hour flow proportional composite)	To be agreed with the Agency

Note 1: "Standards Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F) 19th Ed. 1995, American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA.

Note 2: The Toxicity of the effluent shall be determined on an appropriate aquatic species. The number of toxic units (TU) = 100/ x hour LC_{50} in percentage vol/vol so that higher TU values reflect greater levels of toxicity.

Schedule 3(i) Hazardous Wastes for Disposal/Recovery

Waste Materials	Method of off-site disposal/recovery Note 1
Degreasing Solutions	Agreed hazardous waste recovery/disposal contractor
Spent catalysts	Agreed hazardous waste recovery/disposal contractor
Waste lubricating and engine oils	Agreed hazardous waste recovery/disposal contractor
Spent ion exchange resin	Agreed hazardous waste recovery/disposal contractor
Fluorescent lamps	Agreed hazardous waste recovery/disposal contractor
Other (Note 2)	

Note 1: Any variation from those contractors named in the IPC Licence application, or subsequent agreements, must have the prior written agreement of the Agency.

Note 2: No other hazardous waste to be disposed of off-site without prior notice to, and prior agreement of the Agency

Schedule 3(ii) Other Wastes for Disposal/Recovery

Waste Materials	Further Treatment on-site	On-site recovery, reuse or recycling	Method of off-site disposal/Recovery Note 1
Spent catalyst gauzes from the nitric acid plants	None	None	Agreed recovery contractor.
Waste sludge from the settling lagoon	Dewatering	None	To be agreed with the Agency
Waste plastic packaging and wooden pallets	None	Re-use as much as practicable	On-site landfill
Scrap metal	None	Re-use where practicable	Agreed recovery contractor
Plastic/steel drums	None	Re-use as much as practicable	Agreed disposal contractor.
Disposable overalls & gloves	None	None	Agreed disposal contractor.
Oil & air filters	None	None	Agreed disposal contractor.
Paper & cardboard	None	Re-use as much as practicable	Agreed disposal contractor.
Domestic/canteen waste	None	None	Off-site landfill.
Filter bags from CAN plants	Residue removal	None	On-site landfill
Limestone/China Clay	None	None	On-site landfill
Other (Note 2)			

Note 1: Any variation from those contractors named in the IPC Licence application, or subsequent agreements, must have the prior written agreement of the Agency

Note 2: No other waste shall be disposed of or recovered off-site without prior notice to, and prior written agreement of the Agency.

Schedule 3(iii) Annual Landfill Status Report

Topics to be Included	Landfill Areas	
	Active Areas	Closed Areas
Landfill name & licence number	●	●
Landfill location	●	●
Reporting period	●	●
Owner and/or operator	●	●
Area occupied by waste	●	●
Volume and composition of waste deposited in the preceding year	●	●
Methods of depositing	●	●
Time and duration of depositing	●	●
Total accumulated quantities of waste deposited	●	●
Stability checks undertaken	●	●
Results of monitoring programme	●	●
Summary of any monitoring non-compliances and corrective actions taken	●	●
Summary of any development/remedial works carried out in the preceding year	●	●
Revisions to Landfill Operational Plan	●	●
Calculated remaining capacity	●	
Calculated final capacity of site	●	
Year in which final capacity of site is expected to be reached	●	
Progress on restoration of completed cells	●	

● **- Areas to be included in the annual landfill status report in relation to topics specified**

Schedule 4(i) Noise

Sources

Source Location	Reference[Note 1]	Sound Pressure Limit - dB(A) @ reference distance
CAN 2 cooling tower	PN1	92 @ 1m from cooling tower no. 2
CAN 2 cooling water pump	PN2	89 @ 1m from pump on cooling tower no. 2
NA4 cooling tower	PN3	99 @ 1m from cooling tower
NA4 cooling water pump	PN4	100 @ 1m from cooling tower pumps
NA5 cooling tower	PN5	100 @ 1m from cooling tower
NA5 cooling water pumps	PN6	97 @ 1m from cooling tower pumps
Air filter house NA4	PN7	106 @ 10m from outside air filter
Ancillary plant NA4	PN8	110 @ 5m from ancillary plant
NA5 general	PN9	110 @ perimeter of NA5 plant
Ammonia valve 301 CAN 1	PN10	93 @ 1m from Ammonia valve 301 N Can Plant No. 1
Air intake of CAN 1 cooler stage 2 fan	PN12	99 @ 1m from air intake of NKT fan
CAN 2B Granulation Scrubber Stack	PN14	105 @ 1m from **Scrubber Stack**

Note 1: See IPC application and IPC Licence Review application for location references.

Schedule 5 (i) Groundwater Monitoring

Emission Point Reference No's: BH94/1 to BH94/17 inclusive and BH97/1 to BH97/18 inclusive

Parameter	Monitoring Frequency	Analysis Method/Technique
pH	Biannually	pH electrode/meter
COD	Biannually	Standard Method
Nitrate	Biannually	Standard Method
Total Ammonia	Biannually	Standard Method
Total Nitrogen	Biannually	Standard Method
Conductivity	Biannually	Standard Method

Schedule 6(i) Recording and Reporting to the Agency

Completed reports shall be submitted to:

The Environmental Protection Agency
P.O. Box 3000
Johnstown Castle Estate
County Wexford

or Any other address as may be specified by the Agency

Reports are required to be forwarded as set out below:

Recurring Reports:

Report	Reporting Frequency	Report Submission Date
Monitoring of emissions to atmosphere	Monthly	Ten days after end of the month being reported on.
Monitoring of emissions to water	Quarterly	Ten days after end of the quarter being reported on.
Complaints (where these arise)	Monthly	Ten days after end of the month being reported on.
Pollution emission register proposal	Annually	Six months from the date of grant of licence; thereafter as part of the AER.
Environmental management programme proposal.	Annually	Six months from the date of grant of licence; thereafter as part of the AER.
Schedule of Objectives and Targets	Annually	Six months from the date of grant of licence.
Annual Environmental Report (AER)	Annually	Six months from the date of grant of licence and each year thereafter.

Annual Environmental Report Content
Emissions to atmosphere summary.
Emissions to water summary.
Waste management report.
Waste Disposal On-site Summary Report
Complaints summary
Reported Incidents Summary
Environmental management programme - proposal
Environmental management programme - report
Pollution emission register - proposal
Pollution emission register - report
Noise monitoring programme
Noise monitoring report
Groundwater monitoring
Tank and pipeline testing and inspection report
Landfill Status Report
Schedule of Objectives and Targets

Items to be Addressed in the EMP
Reduction in noise emissions from the site
Identification and reduction of fugitive emissions to air
Implementation of an on-site sewer segeregation system for process and storm water
Implementation of a site spill prevention and control plan
Reduction in the number of air emission points

Once-off Reports:

Report	Report Submission Date
NA4 A1/1 and NA5 A1/1 NO_x reductions	Within three months of the date of grant of this licence
Residuals Management Plan	Within six months of the date of grant of this licence
Bund Integrity Assessment Report	Within one month of the date of grant of this licence
Elimination of visible plume report implementation (further to proposal already approved by the Agency)	Within six months of the date of grant of this licence

Signed on behalf of the Agency

Larry Kavanagh

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Authorised Person

Dated this 14th day of October 1999