Integrated Pollution Prevention and Control (IPPC) Licensing

Application Form

EPA Reg. Nº: *(Office use only)*	

Environmental Protection Agency
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ABOUT THIS APPLICATION FORM

This form is for the purpose of making an application for an Integrated Pollution Prevention and Control (IPPC) Licence under the Environmental Protection Agency Acts, 1992 and 2011. There is a separate application form for applicants who wish to apply for the Pig & Poultry sector.

The Application Form **must** be completed in accordance with the instructions provided in the *IPPC Licensing Application Guidance Note.* The Guidance Note gives an overview of IPPC Licensing, outlines the licence application process (including number of copies required) and specifies the information to be submitted in the application. The Guidance Note and application forms are available to download from the IPPC Licensing pages of the EPA's website at www.epa.ie. A valid application for an IPPC licence must contain the information prescribed in the Environmental Protection Agency (Licensing) Regulations, 1994 to 2010. Article 10 of the Regulations sets out the statutory requirements for information to accompany a licence application. The application form is designed in such a way as to set out these questions in a structured manner and not necessarily in the order presented in Article 10. In order to ensure a legally valid application in respect of Article 10 requirements, please complete the Article 10 Checklist provided in Annex 2.

This Application Form does not purport to be and should not be considered a legal interpretation of the provisions and requirements of the Environmental Protection Agency Acts, 1992 and 2011 and the Environmental Protection Agency (Licensing) Regulations 1994 to 2010. While every effort has been made to ensure the accuracy of the material contained in the Application Form, the EPA assumes no responsibility and gives no guarantees, undertakings and warranties concerning the accuracy, completeness or up-to-date nature of the information provided herein and does not accept any liability whatsoever arising from any errors or omissions.

Should there be any contradiction between the information requirements set out in the Application Form and any clarifying explanation contained in the accompanying Guidance Note, then the requirements in this Application Form shall take precedence.

SECTION A: NON-TECHNICAL SUMMARY

A non-technical summary of the application is to be included here. The summary should identify all environmental impacts of significance associated with the carrying on of the activity/activities, and describe mitigation measures proposed or existing to address these impacts. This description should also indicate the normal operating hours and days per week of the activity.

The following information must be included in the non-technical summary:

A description of:

- the installation and its activities,
- the raw and auxiliary materials, other substances and the energy used in or generated by the installation,
- the sources of emissions from the installation,
- the environmental conditions of the site of the installation (e.g. soil and groundwater, air, noise, surface water),
- the nature and quantities of foreseeable emissions from the installation into each medium as well as identification of significant effects of the emissions on the environment,
- the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the installation,
- where necessary, measures for the prevention and recovery of waste generated by the installation,
- further measures planned to comply with the general principles of the basic obligations of the operator i.e.

  (a) all the appropriate preventive measures are taken against pollution, in particular through application of the Best Available Techniques (BAT);
  (b) no significant pollution is caused;
  (c) waste production is avoided in accordance with the waste hierarchy in Council Directive 98/2008/EC on waste and section 21A of the Waste Management Acts 1996 to 2011 (as amended in 2011); where waste is produced, it is prepared for re-use, recycled or recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment (applicants should provide this information in the context of sections 29(2A), 32 and 38(5A) of the Waste Management Acts 1996 to 2011);
  (d) energy and other resources are used efficiently;
  (e) the necessary measures are taken to prevent accidents and limit their consequences;
  (f) the necessary measures are taken upon definitive cessation of activities to avoid any pollution risk and return the site of operation to a satisfactory state.

- measures planned to monitor emissions into the environment.

Supporting information should form **Attachment N^{o} A.1**

SECTION B: GENERAL

B.1. Owner/Operator

Name*:	MICAM Ltd
Address:	Sean Moylan Park
	Mallow
	Co. Cork
Tel:	022 21345
Fax:	022 21891
e-mail:	Info@micam.com

* This should be the name of the applicant which is current on the date this IPPC Licence Application is lodged with the Agency. It should be the name of the legal entity (which can be a limited company or a sole trader). A trading/business name is not acceptable.

Name and Address for Correspondence
Only application documentation submitted by the applicant and by the nominated person will be deemed to have come from the applicant.

Name:	Ciaran Culligan
Address:	MICAM Ltd
	Sean Moylan Park
	Mallow, Co. Cork
Tel:	022 21345
Fax:	022 21891
e-mail:	cculligan@micam.com

CRO No. and address of registered or principal office of Body Corporate (if applicable)

CRO No.	23898
Address:	Sean Moylan Park
	Mallow, Co. Cork
Tel:	022 21345
Fax:	022 21891
e-mail:	Info@micam.com

If the applicant is a body corporate, the following information must be attached as **Attachment B1**:

a) a Certified Copy of the Certificate of Incorporation.
b) the Company's Registration Number from the Companies Registry Office.
c) Particulars of Registered Office of the Company.

Name and address of the proprietor(s) of the Land on which the Activity is situated (if different from applicant named above):

Proprietor's Name:	***Not applicable***
Address:	
Tel:	
Fax:	
e-mail:	

Name and address of the owner(s) of the building and ancillary plant in which the activity is situated (if different from applicant named above):

Name:	***Not applicable***
Address:	
Tel:	
Fax:	
e-mail:	

B.2. Location of Activity

Name:	MICAM Ltd
Address*:	Sean Moylan Park
	Mallow
	Co. Cork
Tel:	022 21345
Fax:	022 21891
Contact Name:	Ciaran Culligan
Position:	Quality / Environmental Manager
e-mail:	cculligan@micam.com

* Include any townland.

National Grid Reference (12 digit 6E,6N)	E155512, N097610

Location maps (≤A3), appropriately scaled, with legible grid references should be enclosed in **Attachment B.2.** The site boundary must be outlined on the map in colour.

Geo-referenced digital drawing files (e.g. AutoCAD files) in Irish Grid projection of the site boundary and overall site plan, including labelled emission, monitoring and sampling points, are also required. This data should be provided to the Agency on a separate CD-Rom containing sections B.2, E.6 and F.3.

Name of geo-referenced digital drawing files	
Name of CD-Rom with digital drawing files	

B.3. Class of Activity

Identify the relevant activities in the First Schedule of the EPA Acts 1992-2011 to which the activity relates:

Schedule	Class	Description[Note 1]
1	12.2.2	The use of coating material in processes with a capacity to use at least 10 tonnes of organic solvent per year.

Note 1: In order to give a precise identification **select only those words** from the description of the class or classes that best describes the nature of the activity for which the licence is being applied for.

B.4. Employees/ Capital Cost

Give-

(i) In the case of an established activity, the number of employees and other persons working or engaged in connection with the activity on the date after which a licence is required and during normal levels of operation, or

(ii) In any other case, the gross capital cost of the activity to which the application relates.

Number of Employees (existing facilities):	35
Gross Capital Cost (new proposals) €	Not Applicable

B.5. Relevant Planning Authority and/or Public Authority

Give the name of the planning authority in whose functional area the activity is or will be carried out.

Name:	Mallow Town Council
Address:	Town Hall
	Mallow
	Co. Cork
Tel:	022 21542
Fax:	022 43201

Planning Permission relating to this application:

has been obtained		***is being processed***	
is not yet applied for		***is not required***	X

Local Authority Planning File Reference Nº:	PD51 (1967) & 1383 (1990) & PD1895 (1997)

Attachment B.5 should contain all planning permissions, including a copy of ***all*** conditions, a copy of the planning inspector's report and the required copies of any EIS should also be enclosed. For existing activities, **Attachment Nº B.5** should also contain all licences and permits past and present in force at the time of submission.

Where applicable, provide a copy of any screening for Appropriate Assessment report and Natura Impact Statement (NIS) that was prepared for consideration by any planning/public authority as defined in Regulation 2(1) of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) in relation to the activity. Where a determination that an Appropriate Assessment is required has been made by any planning/public authority in relation to the activity, a copy of that determination and any screening report and Natura Impact Statement (NIS), and any supplemental information furnished in relation to any such report or statement, which has been provided to the planning/public authority for the purposes of the Appropriate Assessment shall be included in **Attachment Nº B.5.**

B.6. Relevant Water Services Authority

In the case of a discharge of any trade effluent or other matter to a sewer of a Water Services Authority, give the name of the Water Services Authority in which the sewer is vested or by which it is controlled.

Name:	Mallow Town Council
Address:	Town Hall
	Mallow
	Co. Cork
Tel:	022 21542
Fax:	022 43201

In the case of a discharge of any trade effluent or other matter to a sewer not vested by a Water Services Authority, the applicant must supply as **Attachment Nº B.6**; (a) the name and address of the owner(s) of the sewer and the waste water treatment plant to which the sewer discharges and who are responsible for the quality of the treated effluent discharging to waters and (b) a copy of the effluent regulations and the agreement between the applicant and the aforementioned.

Name:	**Not Applicable**
Address:	
Tel:	
Fax:	

B.7. Relevant Regional Health Service Executive

The applicant should indicate the Regional Health Service Executive where the activity is or will be located.

Name:	HSE South
Address:	Floor 2
	Mallow Primary Healthcare Centre
	Mallow Business Park
	Co Cork
Tel:	022 58700
Fax:	

B.8 Site Notice, Newspaper Advertisement and Planning Authority Notice.

Attachment Nº B.8 should contain a copy of the text of the site notice, a map (no larger than A3) showing its location on site (in accordance with Article 7 of the Regulations) and a copy of the newspaper advertisement. A copy of the notice given to the Planning Authority should also be included.

See Attachment B

B.9 Seveso II Regulations

State whether the activity is an establishment to which the EC (Control of Major Accident Hazards involving Dangerous Substances) Regulations (S.I. No. 74 of 2006) apply.

If yes, outline how the process comes under these regulations.

Not Applicable

Supporting information should be included in **Attachment Nº B.9**.

B.10 IPPC Directive

Specify whether the activity is a category of industrial activity referred to in Annex I of the IPPC Directive (2008/1/EC) and if yes specify the category.

Category	Description
-	Not applicable

Specify whether the activity is a category of industrial activity referred to in Annex I of the Industrial Emissions Directive (2010/75/EU) and if yes specify the category.

Category	Description
-	Not applicable

Supporting information should be included in **Attachment Nº B.10**.

SECTION C: MANAGEMENT OF THE INSTALLATION

C.1 Site Management & Control

Details should be provided on the management structures for the activity. Organisational charts and all relevant environmental management policy statements, including provisions for on-going assessment of environmental performance, are required.

C.2 Environmental Management System (EMS)

Indicate whether an Environmental Management System has been developed for the installation. If yes, specify which standard and include a copy of the accreditation certificate.

C.3 Hours of Operation

Provide details of the hours of operation for the installation, including:
(a) Proposed hours of operation.
(b) Proposed hours of construction and development works and timeframes.
(c) Any other relevant hours of operation expected.

This information should form **Attachment Nº C**.

SECTION D: INFRASTRUCTURE & OPERATION

D.1. Operational Information Requirements

Describe the plant, methods, processes, ancillary processes, abatement, recovery and treatment systems, and operating procedures for the activity, to include a copy of such plans, drawings or maps, (site plans and location maps, process flow diagrams), and such other particulars, reports and supporting documentation as are necessary to describe all aspects of the activity. Maps and drawings must be no larger than A3 size.

A development and operational history of the site should be included here.

Attachment Nº D should contain a list of all unit operations (processes) to be carried out, including flow diagrams of each with any relevant additional information.

Attachment D has been completed outlining this information

SECTION E: EMISSIONS

E.1. Emissions to Atmosphere

E.1.A. Details of all point emissions to atmosphere

Details of all point emissions to atmosphere should be supplied. Complete Table E.1(i) for Boiler Emissions and Table E.1(ii) and E.1(iii) for all other main emission points. Complete Table E.1(iv) for minor emission points.

There are 4 Major Emission points on site:

A2-10	Vertical Impregnator	Emitting VOCs
A2-11	Vertical Impregnator	Emitting VOCs
A2-12	Eisenmann TOU	Emitting TOC, NOx and CO
A2-14	Vits Vertical TOU	Emitting TOC, NOx and CO

There is 1 boiler on site:

A1-1	Boiler	Operating on Natural Gas

There are 2 minor emission points:

A3-1	Master Mix Tank Vent
A3-2	Mix Ares Hood Vent

A summary list of the emission points, together with maps and/or drawings (no larger than A3), and supporting documentation should be included as **Attachment Nº E**. Plans of emission elevations, relevant roof heights, etc., should also be included, as should detailed descriptions and schematics of all abatement systems.

A map of the emission point locations has been included in Attachment E which outlines co-ordinates and stack heights for each location.

There has been no change in abatement systems employed on site since the original licence application.

The applicant should address in particular any emission point where the substances listed in the Schedule of EPA (Licensing)(Amendment) Regulations 2004, S.I. No. 394 of 2004, are emitted.

See Attachment E.1.1

For emissions outside the BAT guidance limit, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the BAT guidance note(s). These notes can be found on the EPA website at www.epa.ie.

E.1.B. Fugitive and Potential emissions

Give summary details of fugitive and potential emissions in Table E.1(v).

In relation to activities listed in the Schedule of Council Directive 1999/13/EC (for VOC Solvents Emissions) S.I. No.543 of 2002 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations;

- Specify the relevant category of activity in the Schedule

Schedule 2 Activity 8

- Specify how the requirements in relation to fugitive emissions will be met.

A detailed fugitive emissions survey and report was commissioned which determined Micam Ltd as compliant with the fugitive emissions limit applied to Activity 8.

Full details and any supporting information should form **Attachment E.1.B**

E.2 Emissions to Surface Waters

Tables E.2(i) and E.2(ii) should be completed.

Not Applicable

A summary list of the emission points, together with maps/drawings (no larger than A3) and supporting documentation should be included as **Attachment Nº E.2**.

Not Applicable

The applicant should address in particular any emission point where the substances listed in the Schedule of EPA (Licensing)(Amendment) Regulations 2004 S.I. No. 394 of 2004, are emitted.

Not Applicable

Details of all List I and List II substances listed in the Annex to EU Directive 2006/11/EC (as amended), contained in any emission must be presented. All surface water runoff and storm water drains discharging to surface water bodies must be included. A National Grid References (12 digit, 6E, 6N) must be given for all discharge points. The identity and type of receiving water (river, ditch, estuary, lake, etc.) must be stated.

Not Applicable

Details of all substances listed in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, contained in any emission must be presented. All surface water runoff and storm water drains discharging to surface water bodies must be included. A National Grid Reference (12 digit, 6E, 6N) must be given for all discharge points the identity and type of receiving water (river, ditch, estuary, lake, etc.) must be stated

Not Applicable

For emissions outside the BAT guidance limit, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the BAT guidance note(s).

Not Applicable

E.3 Emissions to Sewer

Tables E.3(i) and E.3(ii) should be completed.

Not Applicable

A summary list of the emission points, together with maps and/or drawings (no larger than A3) and supporting documentation should be included as **Attachment Nº E.3**. Details of all List I and List II substances listed in the Annex to EU Directive 2006/11/EC (as amended), contained in any emission must be presented. All relevant information on the receiving sewer**,** including any effluent treatment/abatement systems, not already described, with schematics as appropriate should also be included in **Attachment Nº E.3**.

Not Applicable

For emissions outside BAT guidance limit (where given), a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within any limits set out in the BAT guidance note(s).

Not Applicable

E.4 Emissions to Ground

Describe the existing or proposed arrangements necessary to give effect to Council Directive 80/68/EC on the protection of groundwater against pollution by certain dangerous substances.

Not Applicable

The applicant should supply details of the nature and quality of the substance (agricultural and non-agricultural waste) to be landspread (slurry, effluent, sludges etc) as well as the proposed application rates, periods of application and mode of application (e.g., pipe discharge, tanker) having regard to, European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2009, S.I. No 101 of 2009.

Not Applicable

For emissions outside the BAT guidance limit, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the BAT guidance note(s).

Not Applicable

E.5 Noise Emissions

Give particulars of the source, location, nature, level, and the period or periods during which the noise emissions are made or are to be made.

Table E.5 (i) should be completed, as relevant, for each source.

Table E.5 (i) has been completed.

Supporting information should form **Attachment Nº E.5**

For emissions outside the EPA Guidance Note for Noise in Relation to Scheduled Activities 2nd Edition (2006), a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required bringing the emissions within the limits as set out in the Guidance Note.

All Micams noise emissions are within the EPA licenced limits and comply with the most current noise guidance document.

E.6 Tabular Data on Emission Points

Applicants should submit the following information for each emission point:

Point Code	Point Type	Easting	Northing	Verified	Emission
Provide label ID's assigned in section E	A=Atmospheric SW=Surface Water SE = Sewer GW=Groundwater N = Noise SL=Soil/Ground WS=Waste	6E-digit GPS Irish National Grid Reference	6N-digit GPS Irish National Grid Reference	Y = GPS used N = GPS not used	e.g. SO_2, HCl, NH_3

See Attachment E.6

An individual record (i.e. row) is required for each emission point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at www.epa.ie. This data should be submitted to the Agency on a separate CD-Rom containing sections B.2, E.6 and F.3.

SECTION F: CONTROL & MONITORING

Describe the proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the installation/facility.

F.1: Treatment, Abatement and Control Systems

Details of treatment/abatement systems (air and effluent emissions) should be included, together with schematics as appropriate.

For each Emission Point identified complete Table F.1(i) and include detailed descriptions and schematics of all abatement systems.

Table F.1(i) has been completed

Attachment Nº F.1 should contain any supporting information.

No Additional Information

F.2: Emissions Monitoring and Sampling Points

Identify monitoring and sampling points and outline proposals for monitoring **emissions**. Table F.2 (i) should be completed (where relevant) for air emissions, for emissions to surface waters, for emissions to sewers, for emissions to ground, and for waste emissions. Where **ambient** environment monitoring is carried out or proposed, Table F.2 (ii) should be completed as relevant for each environmental medium.

Include details of monitoring/sampling locations and methods.

Tables F.2(i) and (ii) have been completed.

Attachment Nº F.2 should contain any supporting information.

No Additional Information

F.3: Tabular Data on Monitoring and Sampling Points

Applicants should submit the following information for each monitoring and sampling point:

Point Code	Point Type	Easting	Northing	Verified	Emission
A2-10	A	155512	097613	Y	Organic Compounds
A2-11	A	155510	097610	Y	Organic Compounds
A2-12	A	155502	097593	Y	TOC NOX CO
A2-14	A	155485	097614	Y	TOC NOX CO
N1	N	155457	097700	Y	Broadband and 1/3rd Octave analysis
N2	N	155524	097704	Y	
N3	N	155578	097657	Y	
N4	N	155574	097613	Y	
N5	N	155563	097524	Y	
N6	N	155455	097529	Y	
N7	N	155454	097635	Y	

An individual record (i.e. row) is required for each monitoring and sampling point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. A standard Excel template can be downloaded from the EPA website at www.epa.ie. This data should be submitted to the Agency on a separate CD-Rom containing sections B.2, E.6 and F.3.

Point source monitoring/sampling refers to monitoring from specific emission points (e.g. from a boiler stack or outlet from a wastewater treatment plant). Examples of ambient monitoring includes monitoring of ambient air quality (e.g. boundary or off-site) or monitoring of river quality upstream/downstream of an effluent discharge.

SECTION G: RESOURCE USE AND ENERGY EFFICIENCY

G.1 Give a list of the raw and ancillary materials, substances, preparations, fuels and energy which will be produced by or utilised in the activity.

The list(s) given should be very comprehensive, all materials used, fuels, intermediates, laboratory chemicals and product should be included.

Particular attention should be paid to materials and product consisting of, or containing, dangerous substances as described in the EU (Classification, Packaging, Labelling and Notification of Dangerous Substances) Regulations 2003 [SI 116/2003] and Regulation (EC) No. 1272/2008. The list must classify these materials in accordance with both of these Regulations, and must specify the designated Risk Phrases (R-Phrases) and Hazard Statements. R-Phrases for each substance should be in accordance with Article 21 of the S.I 1272/2008.

Tables G.1 (i) and G.1(ii) must be completed. Copy as required.

Supporting information should be given in **Attachment Nº G.**

Summary tables in Attachment G

G.2 Energy Efficiency

A description of the energy used in or generated by the activity must be provided. Outline the measures taken to ensure that energy is used efficiently and where appropriate, an energy audit with reference to the EPA Guidance document on Energy Audits should be carried out.

See Attachment C

SECTION H: MATERIALS HANDLING

H.1 Raw Materials, Intermediates and Product Handling

All materials should be listed in Tables G.1 (i) and G.(ii) of **Section G**.

Details of the storage conditions, location within the site, segregation system used and transport systems within the site should be outlined here. In addition, information relating to the integrity, impermeability and recent testing of pipes, tanks and bund areas should be outlined.

H.2 Describe the arrangements for the recovery or disposal of solid and liquid wastes accepted into or generated by the installation/facility.

For each waste material, give full particulars of:

(a) Name

(b) Description & nature of waste

(c) Source

(d) Where stored and integrity/impermeability of storage areas

(e) Amount (m^3) and tonnage

(f) Period or Periods of generation

(g) Analysis (include test methods and Q.C.)

(h) European Waste Catalogue Code (Council Directive 98/2008/EC)

(i) Waste Category per EC Reg. 1069/2009/EC where relevant

Where any waste would be classified as Hazardous Waste as defined in the Waste Management Acts, 1996 to 2011, this should be made clear in the information provided.

Summary Tables H.1(i) and H.1(ii) should also be completed, as appropriate, for each waste. The licence/permit register number of the waste collection agent or disposal/recovery operator should be supplied as well as the expiry date of the relevant permits.

Supporting information should form **Attachment Nº H.2**

See Attachment H

H.3 Waste disposal by on-site landfilling

For wastes to be disposed of by landfilling on-site, full details of the disposal site should be submitted (to include *inter alia,* site selection procedures, location maps, (no larger than A3) geology, hydrogeology, operational plan, containment, gas and leachate management, post-closure care).

Supporting information should form **Attachment Nº H.3.**

Not Applicable

SECTION I: EXISTING ENVIRONMENT & IMPACT OF THE ACTIVITY

Describe the conditions of the site of the installation.

Provide an assessment of the effects of any emissions on the environment, including on an environmental medium other than that into which the emissions are made.

Describe, where appropriate, measures for minimising pollution over long distances or in the territory of other states.

I.1.Assessment of atmospheric emissions

Describe the existing environment in terms of air quality with particular reference to ambient air quality standards.

Provide a statement whether or not emissions of main polluting substances (as defined in the Schedule of EPA (Licensing)(Amendment) Regulations 2004 S.I. No. 394 of 2004) to the atmosphere are likely to impair the environment.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Attachment Nº I.1 should also contain full details of any dispersion modelling of atmospheric emissions from the activity, where required. When carrying out dispersion modelling, regard should be had to the "Guidelines for the Preparation of Dispersion Modelling Assessments for Compliance with Regulatory Requirements – an Update to Royal Meteorological Society Guidance" or similar guidelines from a recognised authority.

Not Applicable

I.2. Assessment of Impact on Receiving Surface Water

Not Applicable

Describe the existing environment in terms of water quality with particular reference to environmental quality objectives and standards and any objectives and standards laid down for protected areas. Table I.2(i) should be completed

Provide a statement whether or not emissions of main polluting substances (as defined in the Schedule of EPA (Licensing)(Amendment) Regulations 2004 S.I. No. 394 of 2004) to water are likely to impair the environment.

Indicate whether or not the activity complies with the requirements of the EC Environmental Objectives (Surface Waters) Regulations 2009 S.I. No. 272 of 2009.

If the discharge is to water body that is already achieving high status, or if the discharge is to waters draining to the surface water bodies identified under the First Schedule of the *EC Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009*, compliance must be with the 95%ile **high** status limits.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Full details of the assessment and any other relevant information on the receiving environment should be submitted as **Attachment Nº I.2.**

For emissions outside emission limit established according to the combined approach, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting the upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits established in accordance with the combined approach.

I.3. Assessment of Impact of Sewage Discharge.

Not Applicable

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Full details of the assessment and any other supporting information should form **Attachment Nº I.3.**

I.4 Assessment of Impact of Ground/Groundwater Emissions

Not Applicable

Describe the existing groundwater quality. Tables I.4 (i) should be completed.
Give summary details and an assessment of the impacts of any existing or proposed emissions on the ground (aquifers, soils, sub-soils and rock environment), including any impact on environmental media other than those into which the emissions are to be made. This includes landspreading, land injection etc.

Land on which material may be landspread shall be identified on a suitable scaled map (1:10,560 and 1:50,000) and submitted as no greater than A3 size. All vulnerable (as a result of ground emissions) surface water bodies must be identified on these maps. Additional information should be included in **Attachment Nº I.4**.

Landspreading of Agricultural/Non Agricultural Wastes

Tables I.4(ii) and I.4.(iii) should be complete where applicable. Further information is available in the Application Guidance Document.

I.5 Ground and/or Groundwater Contamination

Not Applicable

Summary details of known ground and/or groundwater contamination, historical or current, on or under the site must be given.

Indicate whether or not compliance with the requirements of the EC Environmental Objectives (Groundwater) Regulations 2010, S.I. No. 9 of 2010 can be achieved.

Full details including all relevant investigative studies, assessments, or reports, monitoring results, location and design of monitoring installations, plans, drawings, documentation, including containment engineering, remedial works, and any other supporting information should be included in **Attachment Nº I.5**.

I.6 Assessment of the Environmental Impact of On-site Waste Recovery and/or Disposal.

Not Applicable

Describe the arrangements for the prevention and recovery of waste generated by the activity.

Give details and an assessment of the impact of any existing or proposed on-site waste recovery/disposal on the environment, including environmental media other than those into which the emissions are to be made.

This information should form **Attachment Nº I.6.**

I.7 Noise Impact

Give details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Ambient noise measurements
Complete Table I.7 (i) in relation to the information required below:

(i) State the maximum Sound Pressure Levels which will be experienced at typical points on the boundary of the operation. (State sampling interval and duration)

(ii) State the maximum Sound Pressure Levels which will be experienced at typical noise sensitive locations, outside the boundary of the operation.

(iii) Give details of the background noise levels experienced at the site in the absence of noise from this operation.

Prediction models, maps (no larger than A3), diagrams and supporting documents, including details of noise attenuation and noise proposed control measures to be employed, should form **Attachment Nº I.7.**

See Tables I.7 and Attachment I

I.8 Environmental Considerations and BAT

Describe in outline the main alternatives, if any, to the proposals contained in the application.

Describe any environmental considerations which have been made with respect to the use of cleaner technologies, waste minimisation and raw material substitution.

Describe the measures proposed or in place to ensure that:

(a) The best available techniques are or will be used to prevent or eliminate or, where that is not practicable, generally reduce an emission from the activity;
(b) no significant pollution is caused;
(c) waste production is avoided in accordance with the waste hierarchy in Council Directive 98/2008 EC on waste and section 21A of the Waste Management Acts 1996 to 2011 (as amended in 2011); where waste is produced, it is prepared for re-use, recycled or recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment (applicants should provide this information in the context of sections 29(2A), 32 and 38(5A) of the Waste Management Acts 1996 to 2011);

(d) energy and other resources are used efficiently;
(e) the necessary measures are taken to prevent accidents and limit their consequences;
(f) the necessary measures are taken upon definitive cessation of activities to avoid any pollution risk and return the site of operation to a satisfactory state.

Supporting information should form **Attachment Nº I.8.**

See Attachment I

SECTION J: ACCIDENT PREVENTION & EMERGENCY RESPONSE

Describe the existing or proposed measures, including emergency procedures, to minimise the impact on the environment of an accidental emission or spillage.

Also outline what provisions have been made for response to emergency situations outside of normal working hours, i.e. during night-time, weekends and holiday periods.

Describe the arrangements for abnormal operating conditions including start-up, leaks, malfunctions or momentary stoppages.

Supporting information should form **Attachment Nº J.**

SECTION K: REMEDIATION, DECOMMISSIONING, RESTORATION & AFTERCARE

Describe the existing or proposed measures to minimise the impact on the environment after the activity or part of the activity ceases operation, including provision for post-closure care of any potentially polluting residuals.

Supporting information should be included as **Attachment No. K.**

Micam has invested heavily to upgrade the existing site in 2011. There are no immediate plans to cease trading.

Should Micam cease its operations, all machinery, plant and stock would either be relocated to an alternative site or sold. All solvent/ chemical storage tanks would be emptied, site wastes would be appropriately disposed of and the site secured against vandalism.

Micam will render the site safe and remove from the site all reasonable materials, waste, plant or equipment contained on or in the site that may result in environmental pollution.

Micam will consider any reasonable request by the EPA to deposit a security bond or insurance in the case of insolvency. This will be used to cover the cost of any site decommissioning if required.

SECTION L: STATUTORY REQUIREMENTS

Indicate how the requirements of Section 83(5)(a)(i) to (v) and (vii) to (x) of the EPA Acts, 1992 and 2011 shall be met, having regard, where appropriate, to any relevant specification issued by the Agency under section 5 (3) of the Act and the reasons for the selection of the arrangements proposed.

Indicate whether or not the activity is carried out, or may be carried out, or is located such that it is liable to have an adverse effect on –

(a) a site placed on a list in accordance with Part 3 of S.I. 477 of 2011, or (b) a site where consultation has been initiated in accordance with Article 5 of the EU Habitats Directive (92/43/EEC).

Not Applicable

Undertake a screening for Appropriate Assessment and state whether the activity, whether individually or in combination with other plans or projects is likely to have a significant effect on a European Site(s), in view of best scientific knowledge and in view of the conservation objectives of the site(s). Where it cannot be excluded, on the basis of objective scientific information, following screening for Appropriate Assessment, that an activity, either individually or in combination with other plans or projects, will have a significant effect on a European Site, provide a Natura Impact Statement, as defined in Regulation 2(1) of the European Communities (Birds and Natural Habitats) Regulations (S.I. No. 477 of 2011). Where based on the screening it is considered that an Appropriate Assessment is not required, provide a reasoned response.

Indicate whether or not the activity is liable to have an adverse effect on water quality in light of the European Communities Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009)..

Not Applicable

Indicate whether or not the activity is liable to have an adverse effect on water quality in light of the European Communities Environmental Objectives (Ground Water) Regulations 2010 (S.I. No. 9 of 2010).

Not Applicable

Indicate whether any of the substances specified in the Schedule of the EPA (Licensing)(Amendment) 2004, S.I. No. 394 of 2004, are discharged by the activity to the relevant medium.

The following parameters are emitted to atmosphere:

(1) Oxides of nitrogen and other nitrogen compounds

(2) Carbon monoxide

(3) Volatile organic compounds

Indicate if the best environmental practices are in place for control of diffuse emissions from the installation/facility as set out in the following legislation:

(a) a specification prepared by the Agency in accordance with Section 5 of the *Environmental Protection Agency Act 1992* as amended by Section 7 of the *Protection of the Environment Act 2003*;

Best Environmental Practices are in place

(b) the *Urban Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001)* as amended by the *Urban Waste Water Treatment (Amendment) Regulations 2004 (S.I. No. 440 of 2004)* or any future amendment thereof;

Not Applicable

(c) the *European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2009 (S.I. No. 101 of 2009)* or any future amendment thereof;

Not Applicable

(d) the *Local Government (Water Pollution) Act, 1977 (Control of Cadmium Discharges) Regulations 1985 (S.I. No. 294 of 1985)*;

Not Applicable

(e) the *Local Government (Water Pollution) Act, 1977 (Control of Hexachlorocyclohexane and Mercury Discharges) Regulations 1986 (S.I. No. 55 of 1986)*;

Not Applicable

(f) the *Local Government (Water Pollution) Acts, 1977 and 1990 (Control of Carbon Tetrachloride, DDT and Pentachlorophenol Discharges) Regulations 1994 (S.I. No. 43 of 1994)*; and,

Not Applicable

measures or controls identified in a pollution reduction plan for the river basin district prepared in accordance with Part V of the *EC Environmental Objectives (Surface Waters) Regulations 2009 S.I. No. 272 of 2009* for the reduction of pollution by priority substances or the ceasing or phasing out of emissions, discharges and losses of priority hazardous substances.

Not Applicable

Fit and Proper Person

The PoE Act in Section 83(5)(xi) specifies that the Agency shall not grant a licence unless it is satisfied that the applicant or licensee or transferee as the case may be is a fit and proper person. Section 84(4) of the PoE Act specifies the information required to enable a determination to be made by the Agency.

- Indicate whether the applicant or other relevant person has been convicted under the Environmental Protection Agency Act 1992 to 2011, the Waste Management Acts 1996 to 2011, the Local Government (Water Pollution) Acts 1997 and 1990, the Air Pollution Act 1987, and the Air Pollution Act 1987 (Environmental Specifications for Petrol and Diesel Fuels)(Amendment) Regulations 2004.

  No convictions have ever been brought against the applicant under the Acts

- Provide details of the applicant's technical knowledge and/or qualifications, along with that of other relevant employees.

  The site has operated under licence with the Agency since 1997 and has been deemed competent and meeting the minimum requirements for technical capabilities since the licence was issued.

- Provide information to show that the person is likely to be in a position to meet any financial commitments or liabilities that may have been or will be entered into or incurred in carrying on the activity to which the application relates or in consequence of ceasing to carry out that activity.

  The licensee will agree this aspect with the Agency.

Supporting information should be included as **Attachment Nº L** with reference to where the information can be found in the application.

SECTION M: DECLARATION

Declaration

I hereby make application for a licence / revised licence, pursuant to the provisions of the Environmental Protection Agency Acts, 1992 and 2011 and Regulations made thereunder.

I certify that the information given in this application is truthful, accurate and complete.

I give consent to the EPA to copy this application for its own use and to make it available for inspection and copying by the public, both in the form of paper files available for inspection at EPA and local authority offices, and via the EPA's website. This consent relates to this application itself and to any further information, submission, objection, or submission to an objection whether provided by me as Applicant, any person acting on the Applicant's behalf, or any other person.

Signed by:_____ **Date:**_____
(on behalf of the organisation)

Print signature name:_____

Position in organisation:_____

Company stamp or seal:

ANNEX 1: TABLES/ATTACHMENTS

Table E.1 (i) BOILER EMISSIONS TO ATMOSPHERE (1 Page for each emission point)

Emission Point:

Emission Point Ref. Nº:	A1-1	
Location:	South East corner of laminate building	
Grid Ref. (12 digit, 6E,6N):	E155560, N097606	
Vent Details	Diameter: 508mm	Height above Ground(m): 22
Date of commencement of emission:	Sept 1993	

Characteristics of Emission:

Boiler rating Steam Output: Thermal Input:			4500 kg/hr 2.8 MW
Boiler fuel Type: Maximum rate at which fuel is burned % sulphur content:			Natural Gas kg/hr 0%
NOx			Typically Low for Natural Gas Combustion mg/Nm^3 0ºC. 3% O_2(Liquid or Gas), 6% O_2(Solid Fuel)
Maximum volume* of emission			m^3/hr 0ºC, 3 % O_2 (liquid or gas), 6 % O_2 (solid fuel)
Minimum efflux velocity			m.sec^{-1}
Temperature	250 ºC(max)	200ºC(min)	225ºC(avg)

* Volume flow limits for emissions to atmosphere shall be based on Normal conditions of temperature and pressure, (i.e. 0ºC,101.3kPa), dry gas; 3% oxygen for liquid and gas fuels; 6% oxygen for solid fuels.

(i) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up/shutdown to be included):*

Periods of Emission (avg)	60 min/hr	24 hr/day	240 day/yr	

TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE (1 Page for each emission point)

Emission Point Ref. Nº:	A2-10
Source of Emission:	Impla Vertical Impregnator – Top Vent
Location:	Impregnation Building
Grid Ref. (12 digit, 6E,6N):	155512, 097613
Vent Details Diameter: Height above Ground(m):	 0.38m 14 m
Date of commencement:	Sept 1985

Characteristics of Emission:

(i) Volume to be emitted:			
Average/day	8000Nm^3/d	Maximum/day	13200 Nm^3/d
Maximum rate/hour	550 Nm^3/h	Min efflux velocity	m.sec^{-1}
(ii) Other factors			
Temperature	180ºC(max)	50 ºC(min)	ºC(avg)
For Combustion Sources: Volume terms expressed as : ☐ wet. ☐ dry. _____%O_2			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	60 min/hr 24 hr/day 144 day/yr

TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission (1 table per emission point)

Emission Point Reference Number: ***A2-10***

Parameter	Prior to treatment[1]				Brief description of treatment	As discharged[1]					
	mg/Nm^3		kg/h			mg/Nm^3		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
TA Luft class I Organic Solvents	Not applicable				None	-	-	-	0.10	-	-
TA Luft class II Organic Solvents	Not applicable				None	-	-	-	0.15	-	-
TA Luft Class III Organic Solvents	Not applicable				None	-	-		0.15	-	-

There are no changes required to the limits already issued under the current licence.

1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0^{o}C,101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE (1 Page for each emission point)

Emission Point Ref. Nº:	A2-11
Source of Emission:	Impla Vertical Impregnator – Main exhaust
Location:	Impregnation Building
Grid Ref. (12 digit, 6E,6N):	155502, 097593
Vent Details Diameter: Height above Ground(m):	 0.5 x 0.5m 14.5m
Date of commencement:	Sept 1985

Characteristics of Emission:

(i) Volume to be emitted:			
Average/day	50,400 Nm^3/d	Maximum/day	84,000 Nm^3/d
Maximum rate/hour	3,500 Nm^3/h	Min efflux velocity	$m.sec^{-1}$
(ii) Other factors			
Temperature	180°C(max)	80 °C(min)	°C(avg)
For Combustion Sources: Volume terms expressed as : ☐ wet. ☐ dry. _____ $\%O_2$			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	60 min/hr 24 hr/day 144 day/yr

TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission (1 table per emission point)

Emission Point Reference Number: ***A2-11***

Parameter	Prior to treatment(1)				Brief description of treatment	As discharged(1)					
	mg/Nm^3		kg/h			mg/Nm^3		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
TA Luft class I Organic Solvents	Not applicable				None	-	-	-	0.10	-	-
TA Luft class II Organic Solvents	Not applicable				None	-	-	-	0.5	-	-
TA Luft Class III Organic Solvents	Not applicable				None	-	-		6.25	-	-

There have been changes in the emissions from this point since the licence was obtained – less environmentally friendly solvents were in use in the plant when the original application was made. These were substituted under the environmental improvement programs over the years. The substitution resulted in removal of most of the more harmful Class II substances and replaced them with less harmful Class III. Therefore Micam will not require the full allocation for Class II currently allowed for in the licence, but this allocation will need to be transferred to the less harmful Class III.

1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0^{o}C,101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE (1 Page for each emission point)

Emission Point Ref. Nº:	A2-12
Source of Emission:	Eisenmann thermal Oxidiser
Location:	Impregnation Building
Grid Ref. (12 digit, 6E,6N):	155502, 097593
Vent Details Diameter: Height above Ground(m):	 0.70 12.2
Date of commencement:	2003

Characteristics of Emission:

(i) Volume to be emitted:			
Average/day	79,200 Nm^3/d	Maximum/day	288,000 Nm^3/d
Maximum rate/hour	12,000 Nm^3/h	Min efflux velocity	$m.sec^{-1}$
(ii) Other factors			
Temperature	350°C(max)	200 °C(min)	°C(avg)
For Combustion Sources: Volume terms expressed as : ☐ wet. ☐ dry. _____ $\%O_2$			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	60 min/hr 24 hr/day 40 day/yr

TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission (1 table per emission point)

Emission Point Reference Number: ***A2-12***

Parameter	Prior to treatment[1]				Brief description of treatment	As discharged[1]					
	mg/Nm^3		kg/h			mg/Nm^3		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
					Thermal Oxidation						
TOC	NA					6	20	0.020	0.24	18	-
NOx	NA					52	200	0.166	2.4	160	-
CO	NA					34	100	0.113	1.2	108	-

MICAM Comments: Avg values taken from 2010 & 2011 data – There are no changes required from the current licence limits

1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0^{o}C,101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE (1 Page for each emission point)

Emission Point Ref. Nº:	A2-14
Source of Emission:	Vits Vertical thermal Oxidiser
Location:	Impregnation Building
Grid Ref. (12 digit, 6E,6N):	155485, 097614
Vent Details Diameter: Height above Ground(m):	 0.55 16.0
Date of commencement:	2003

Characteristics of Emission:

(i) Volume to be emitted:			
Average/day	31,200 Nm^3/d	Maximum/day	120,000 Nm^3/d
Maximum rate/hour	5,000 Nm^3/h	Min efflux velocity	$m.sec^{-1}$
(ii) Other factors			
Temperature	350°C(max)	200 °C(min)	°C(avg)
For Combustion Sources: Volume terms expressed as : ☐ wet. ☐ dry. _____ $\%O_2$			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	60 min/hr 24 hr/day 240 day/yr

TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission (1 table per emission point)

Emission Point Reference Number: ***A2-14***

Parameter	Prior to treatment[1]				Brief description of treatment	As discharged[1]					
	mg/Nm^3		kg/h			mg/Nm^3		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
					Thermal Oxidation						
TOC	NA					6	20	0.007	0.1	28	-
NOx	NA					28	200	0.036	1.0	137	-
CO	NA					180	400	0.23	2.0	890	-

MICAM Comment: the Avg figures supplied are based on year 2011 data

Micam does require an increase on the CO limit applied in the current licence as this limit was not practical to comply with.

1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0^{o}C,101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

TABLE E.1(iv): EMISSIONS TO ATMOSPHERE - Minor atmospheric emissions

Emission point Reference Numbers	Description	Emission details[1]				Abatement system employed
		material	mg/Nm^3[2]	kg/h.	kg/year	
A3-1	Master Mix tank exhaust	Organic Compounds		0.17 *	500 *	None
A3-2	Mix Area hood exhaust					None * figures based on weight lost from the mixing tank. 8kg per 48 hr mix period. With 56 master mixes per year in 2010.

1 The maximum emission should be stated for each material emitted, the concentration should be based on the maximum 30 minute mean.

2 Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0^{o}C101.3kPa). Wet/dry should be clearly stated. Include reference oxygen conditions for combustion sources.

TABLE E.1(v): EMISSIONS TO ATMOSPHERE – Fugitive and Potential atmospheric emissions

Emission point ref. no. (as per flow diagram)	Description	Malfunction which could cause an emission	Emission details (Potential max. emissions)[1]		
			Material	mg/Nm^3	kg/hour
A2-12 BP	Emergency Bypass stack for A2-12	Failure of thermal oxidiser system	TA Luft organics		< 0.7 Kg TOTAL mass emission within 1 hour of emergency shutdown
A2-14 BP	Emergency Bypass stack for A2-14	Failure of thermal oxidiser system	TA Luft organics		< 2 Kg TOTAL mass emission within 1 hour of emergency shutdown

[1] Estimate the potential maximum emission for each malfunction identified.

TABLE E.2(i): EMISSIONS TO SURFACE WATERS (One page for each emission)

Emission Point: **NOT APPLICABLE**

Emission Point Ref. Nº:	
Source of Emission:	
Location of discharge :	
Grid Ref. (12 digit, 6E,6N):	
Name of receiving waters and water body code:	
Flow rate in receiving waters:	_____ $m^3.sec^{-1}$ Dry Weather Flow _____ $m^3.sec^{-1}$ 95%ile flow
Available assimilative capacity:	kg/day

Emission Details:

(i) Volume to be emitted			
Normal/day	m^3	Maximum/day	m^3
Maximum rate/hour	m^3		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

TABLE E.2(ii): EMISSIONS TO SURFACE WATERS - Characteristics of the emission (1 table per emission point)

Emission point reference number: ***Not Applicable***

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	

TABLE E.3(i): EMISSIONS TO SEWER (One page for each emission)

Emission Point: ***Not Applicable***

Emission Point Ref. Nº:	
Location of connection to sewer:	
Grid Ref. (12 digit, 6E,6N):	
Name of sewage undertaker:	

Emission Details:

(i) Volume to be emitted			
Normal/day	m^3	Maximum/day	m^3
Maximum rate/hour	m^3		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

TABLE E.3(ii): EMISSIONS TO SEWER - Characteristics of the emission (1 table per emission point)

Emission point reference number: Not Applicable

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	

TABLE E.4(i): EMISSIONS TO GROUND (1 Page for each emission point)

Emission Point or Area: *Not Applicable*

Emission Point/Area Ref. Nº:	
Emission Pathway: (borehole, well, percolation area, soakaway, landspreading, etc.)	
Location :	
Grid Ref. (12 digit, 6E,6N):	
Elevation of discharge: (relative to Ordnance Datum)	
Aquifer classification for receiving groundwater body:	
Groundwater vulnerability assessment (including vulnerability rating):	
Identity and proximity of groundwater sources at risk (wells, springs, etc):	
Identity and proximity of surface water bodies at risk:	

Emission Details:

(i) Volume to be emitted			
Normal/day	m^3	Maximum/day	m^3
Maximum rate/hour	m^3		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):*

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

TABLE E.4(ii): EMISSIONS TO GROUND - Characteristics of the emission (1 table per emission point)

Emission point/area reference number: Not Applicable

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	

Table E.5(i): NOISE EMISSIONS - Noise sources summary sheet

Source	Emission point Ref. No	Equipment Ref. No	Sound Pressure[1] dBA at reference distance 1 metre	Octave bands (Hz) Sound Pressure[1] Levels dB(unweighted) per band									Impulsive or tonal qualities	Periods of Emission
				31.5	63	125	250	500	1K	2K	4K	8K		
New Filter housing	-	-	80.2	74	75	78	78	77	76	75	73	71	None	Day time periodically

1. For items of plant sound power levels may be used.

Only new items of equipment have been included as all this information was supplied in the initial application – there have never been noise issues on site.

TABLE F.1(i): ABATEMENT / TREATMENT CONTROL

Emission point reference number*: *A2-12 & A2-14

Control[1] parameter	Equipment [2]	Equipment maintenance	Equipment calibration	Equipment back-up
TOC CO NOx	Thermal Oxidation Unit I	Preventative Maintenance Schedules	Not Applicable	Spare parts in storage
TOC CO NOX	Thermal Oxidation Unit II	Preventative Maintenance Schedules	Not Applicable	Spare parts in storage

Control[1] parameter	Monitoring to be carried out[3]	Monitoring equipment	Monitoring equipment calibration
TOC CO NOx	Quarterly Analysis	External Contractor	External Calibrations
TOC CO NOx	Quarterly Analysis	External Contractor	External Calibrations

[1] List the operating parameters of the treatment / abatement system which control its function.
[2] List the equipment necessary for the proper function of the abatement / treatment system.
[3] List the monitoring of the control parameter to be carried out.

TABLE F.2(i) : EMISSIONS MONITORING AND SAMPLING POINTS (1 table per monitoring point)

***Emission Point Reference No. :* A2-12**

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
TOC	Quarterly	In line with AG2	EN 12619	FID
NOX	Quarterly	In line with AG2	EN 14792	Chemilluminescence
CO	Quarterly	In line with AG2	EN 15058	Infra Red
Flow	Quarterly	In line with AG2	EN 13284-1	Flow meter and Pitot

***Emission Point Reference No. :* A2-14**

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
TOC	Quarterly	In line with AG2	EN 12619	FID
NOX	Quarterly	In line with AG2	EN 14792	Chemilluminescence
CO	Quarterly	In line with AG2	EN 15058	Infra Red
Flow	Quarterly	In line with AG2	EN 13284-1	Flow meter and Pitot

Emission Point Reference No. : A2-10

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
TA Luft Organic Compounds	Quarterly	Good	EN 13649	Adsorbent Tubes and GCMS analysis
Flow	Quarterly	Good	EN 13284-1	Adsorbent Tubes and GCMS analysis

Emission Point Reference No. : A2-11

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique
TA Luft Organic Compounds	Quarterly	Good	EN 13649	Adsorbent Tubes and GCMS analysis
Flow	Quarterly	Good	EN 13284-1	Flow meter and Pitot

TABLE F.2(ii): AMBIENT ENVIRONMENT MONITORING AND SAMPLING POINTS (1 table per monitoring point)

***Monitoring Point Reference No*: Noise Combined**

Parameter	Monitoring frequency	Accessibility of Sampling point	Sampling method	Analysis method / technique
Broadband Noise and 1/3 Octave Frequency Analysis	Annual	N1 – N7 Good	Type 2 Sound Level Meter	ISO 1996 Parts I - III

Table G.1(i) Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site

Ref. Nº or Code	Material/ Substance[1]	CAS Number	Danger[2] Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	R[3] - Phrase	S[3] - Phrase	Hazard Statement[4]

Notes: 1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.
2. Article 2(2) of S.I. No. 116/2003
3. Schedules 9 and 10 of S.I. No. 62/2004 (as amended by S.I. No. 271/2008)
4. EC Regulation 1272/2008 (Chemicals Act 2008 (13 of 2008) and 2010)

See Attachment G

Table G.1(ii) Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site

Ref. Nº or Code	Material/ Substance(1)	Odour			Pollutants (Tick and specify Group/Family Number)			
		Odourous Yes/No	Description	Threshold µg/m³	EC EO (Surface Waters) Regulations 2009		EC EO Groundwater) Regulations 2010	
					Specific pollutants	Priority (hazardous) substances	Hazardous[1]	Non-hazardous[1]

Note 1: The EPA Classification of Hazardous and Non-Hazardous Substances in Groundwater, December 2010

See Attachment G

TABLE H.1(i): WASTE - Hazardous Waste Recovery/Disposal

Waste material	EWC Code	Main source[1]	Quantity		On-site Recovery/Disposal	Off-site Recovery, reuse or recycling	Off-site Disposal
			Tonnes / month	m^3 / month	(Method & Location)	(Method, Location & Undertaker)	(Method, Location & Undertaker)
Waste coolant-Oil/water emulsion	120107	Waste coolant from CNC milling machines	0.1	-	No	R1 Enva Ireland Smithstown Ind Est, Shannon , Co Clare.	-
Waste Oils		Used Thermal, hydraulic and lubrication oils from plant and equipment	0.1	-	No	Atlas Oils	-
Waste Resins containing solvents		Expired or contaminated raw materials	Waste will only occur as an exceptional case	-	No	Enva Ireland Smithstown Ind Est, Shannon , Co Clare.	-

[1] A reference should be made to the main activity / process for each waste.

TABLE H.1(ii) WASTE - Other Waste Recovery/Disposal

Waste material	EWC Code	Main source[1]	Quantity		On-site recovery/disposal[2]	Off-site Recovery, reuse or recycling	Off-site Disposal
			Tonnes / month	m^3 / month	(Method & Location)	(Method, Location & Undertaker)	(Method, Location & Undertaker)
Reinforced Plastic off cuts and plastic machining wastes	200139	Cutting of sheets in the sawing, guillotining and machining processes	10	-	No	No	Landfill, Munster Waste management Ltd
Waste plastic films	150102	Used release films from lamination process and packaging waste	0.5	-	No	R3 Danelle Recycling Tinypark, Quinagh, Co. Carlow	-
Copper off-cuts and foil	200140	Cutting of copperclad laminate sheets	1	-	No	R4 Hegarty Metal Recycling, Ballysimon Rd. Limerick	-
Aluminium off cuts	200140	Cutting of aluminium extrusions	0.25	-	No	R4 Hegarty Metal Recycling, Ballysimon Rd. Limerick	-

Steel Drums	150104	Waste metal packaging	0.4	-	No	R4 Hegarty Metal Recycling, Ballysimon Rd. Limerick	-
Kraft paper and Cardboard	150101	Used press pad paper and packaging waste	1.5	-	No	R3 Danelle Recycling, Tinypark, Quinagh Co. Carlow.	-

1 A reference should be made to the main activity/ process for each waste.
2 The method of disposal or recovery should be clearly described and referenced to Attachment H.1

Table I.2(i) SURFACE WATER QUALITY

(Sheet 1 of 2) Monitoring Point/ Grid Reference: **Not Applicable**

Parameter	Results (mg/l)				Sampling method[2] (grab, drift etc.)	Normal Analytical Range[2]	Analysis method / technique
	Date	Date	Date	Date			
pH							
Temperature							
Electrical conductivity EC							
Total Ammonia as N							
Chemical oxygen demand							
Biochemical oxygen demand							
Dissolved oxygen DO							
Orthophosphate as P							
Nitrate as N							
Nitrite as N							
Calcium Ca							
Cadmium Cd							
Chromium Cr							
Chloride Cl							
Copper Cu							
Iron Fe							
Lead Pb							
Magnesium Mg							
Manganese Mn							
Mercury Hg							

Surface Water Quality (Sheet 2 of 2)

Parameter	Results (mg/l)				Sampling method (grab, drift etc.)	Normal Analytical Range	Analysis method / technique
	Date	Date	Date	Date			
Nickel Ni							
Potassium K							
Sodium Na							
Sulphate SO_4							
Zinc Zn							
Total alkalinity (as $CaCO_3$)							
Total organic carbon TOC							
Total oxidised nitrogen TON							
Nitrite NO_2							
Nitrate NO_3							
Faecal coliforms (/100mls)							
Total coliforms (/100mls)							
Phosphate PO_4							

Table I.4(i) GROUNDWATER QUALITY **Not Applicable**
(Sheet 1 of 2) Monitoring Point/ Grid Reference:

Parameter	Results (mg/l)				Sampling method (composite etc.)	Normal Analytical Range	Analysis method / technique
	Date	Date	Date	Date			
pH							
Temperature							
Electrical conductivity EC							
Total Ammonium as N							
Nitrite as N							
Nitrate as N							
Orthphosphate as P							
Dissolved oxygen DO							
Residue on evaporation (180°C)							
Aluminium Al							
Arsenic As							
Boron B							
Calcium Ca							
Cadmium Cd							
Chromium Cr							
Chloride Cl							
Copper Cu							
Cyanide Cn, total							
Iron Fe							
Lead Pb							
Magnesium Mg							
Manganese Mn							
Mercury Hg							
Nickel Ni							
Potassium K							
Sodium Na							
Sulphate SO_4							

Groundwater Quality (sheet 2 of 2)

Parameter	Results (mg/l)				Sampling method (composite, dipper etc.)	Normal Analytical Range	Analysis method / technique
	Date	Date	Date	Date			
Phosphate PO_4							
Sulphate SO_4							
Zinc Zn							
Total alkalinity (as $CaCO_3$)							
Total organic carbon TOC							
Total oxidised nitrogen TON							
Arsenic As							
Barium Ba							
Boron B							
Fluoride F							
Phenol							
Phosphorus P							
Selenium Se							
Silver Ag							
Nitrite NO_2							
Nitrate NO_3							
Faecal coliforms (/100mls)							
Total coliforms (/100mls)							
Water level (m OD)							

TABLE I.4(ii): LIST OF OWNERS/FARMERS OF LAND **NOT APPLICABLE**

Land Owner	Townlands where landspreading	Map Reference	Fertiliser P requirement for each farm
			*NMP must take account of on-farm slurry

Total P requirement of the client List _____

TABLE I.4(ii): LANDSPREADING **NOT APPLICABLE**

Land Owner/Farmer_____

Map Reference_____

Field ID	Total Area (ha)	(a) Usable Area (ha)	Soil P Test Mg/l	Date of P test	Crop	P Required (kg P/ha)	Volume of On-Farm Slurry Returned (m^3/ha)	Estimated P in On-Farm Slurry (kg P/ha)	(b) Volume to be Applied (m^3/ha)	P Applied (kg P/ha)	Total Volume of imported slurry per plot (m^3)

TOTAL VOLUME THAT CAN BE IMPORTED ON TO THE FARM:

Concentration of P in landspread material	- kg P/m^3
Concentration of N in landspread material	- kg N/m^3

Table I.7(i): AMBIENT NOISE ASSESSMENT

Third Octave analysis for noise emissions should be used to determine tonal noises

	National Grid Reference	Sound Pressure Levels		
		$L(A)_{eq}$	$L(A)_{10}$	$L(A)_{90}$
1. SITE BOUNDARY				
Location 1: N1	155457 097700	52 day, 38 night	54 day, 40 night	49 day, 35 night
Location 2: N2	155524 097704	55 day, 42 night	57 day, 43 night	48 day, 40 night
Location 3: N3	155578 097657	53 day, 40 night	57 day, 43 night	47 day, 36 night
Location 4: N5	155563 097524	55 day, 46 night	56 day, 47 night	54 day, 44 night
Location 5: N6	155455 097529	52 day, 45 night	54 day, 47 night	50 day, 41 night
Location 6: N7	155454 097635	54 day, 45 night	58 day, 48 night	50 day, 42 night
2. NOISE SENSITIVE LOCATIONS				
Location 1: N4	155574 097613	55 day, 47 night	56 day, 49 night	53 day, 45 night

NOTE: All locations should be identified on accompanying drawings.

All values reported in the table above are based on noise assessment carried out Dec 2011 and Jan 2012.

ANNEX 2: CHECKLIST FOR ARTICLE 10 COMPLIANCE

Article 10 of the Environmental Protection Agency (Licensing) Regulations, 1994 to 2010 sets out the statutory requirements for information to accompany a licence application. The Application Form is designed in such a way as to set out these questions in a structured manner and not necessarily in the order presented in Article 10. In order to ensure a legally valid application in respect of Article 10 requirements, all Applicants should complete the following checklist and submit it with the completed Application Form.

Article 10(2)		**Section in Application**	**Checked by Applicant ✓**
(a)	give the name, address and telephone number of the applicant and, if different, any address to which correspondence relating to the application should be sent and, if the applicant is a body corporate, the address of its registered or principal office,	*B*	✓
(b)	give - (i) in the case of an established activity, the number of employees and other persons working or engaged in connection with the activity on the date after which a licence is required and during normal levels of operation, or (ii) in any other case, the gross capital cost of the activity to which the application relates,	*B*	✓
(c)	give the name of the planning authority in whose functional area the activity is or will be carried on,	*B*	✓
(d)	in the case of a discharge of any trade effluent or other matter (other than domestic sewage or storm water) to a sewer of a Water Services Authority, give the name of the Water Services Authority in which the sewer is vested or by which it is controlled,	*B*	✓
(e)	give the location or postal address (including where appropriate, the name of the relevant townland or townlands) and the National Grid reference of the premises to which the activity relates,	*B*	✓
(f)	specify the relevant class or classes in the First Schedule to the Act to which the activity relates,	*B*	✓
(g)	specify the raw and ancillary materials, substances, preparations, fuels and energy which will be produced by or utilised in the activity,	*G*	✓
(h)	describe the plant, methods, processes, ancillary processes, abatement, recovery and treatment systems, and operating procedures for the activity,	*D*	✓

Article 10(2) *continued../*		**Section in Application**	**Checked by Applicant ✓**
(i)	indicate how the requirements of section 83(5)(a)(i) to (v) and (vii) to (x) of the Act shall be met, having regard, where appropriate, to any relevant specification issued by the Agency under section 5(3) of the Act and the reasons for the selection of the arrangements proposed,	*L*	✓
(j)	give particulars of the source, nature, composition, temperature, volume, level, rate, method of treatment and location of emissions, and the period or periods during which the emissions are made or are to be made,	*E*	✓
(k)	describe the arrangements for the prevention or minimisation of waste and, where waste is produced, the on and of site arrangements for the recovery or disposal of solid and liquid wastes,	*H*	✓
(l)	specify, by reference to the relevant European Waste Catalogue codes as prescribed by Council Directive 98/2008/EC of 19 November 2008, the quantity and nature of the waste or wastes produced or to be produced by the activity,	*H*	✓
(m)	provide: (i) details, and an assessment, of the impacts of any existing or proposed emissions on the environment, including on an environmental medium other than that or those into which the emissions are or are to be made, and (ii) details of the proposed measures to prevent or eliminate, or where that is not practicable, to limit, reduce or abate emissions,	*I*	✓
(n)	identify monitoring and sampling points and outline proposals for monitoring emissions and the environmental consequences of any such emissions,	*E*	✓
(o)	describe the condition of the site of the installation,	*C*	✓
(p)	describe in outline the main alternatives, if any, to the proposals contained in the application which were studied by the applicant,	-	✓
(q)	specify the measures to be taken to comply with an environmental quality standard where such a standard requires stricter conditions to be attached to a licence than would otherwise be determined by reference to best available techniques,	*C*	✓

Article 10(2) *continued../*		**Section in Application**	**Checked by Applicant ✓**
(r)	describe the measures to be taken for minimising pollution over long distances or in the territory of other states,	-	✓
(s)	describe the measures to be taken under abnormal operating conditions, including start-up, shutdown, leaks, malfunctions, breakdowns and momentary stoppages,	*J*	✓
(t)	describe the measures to be taken on and following the permanent cessation of the activity or part of the activity to avoid any risk of environmental pollution and to return the site of the activity to a satisfactory state,	*K*	✓
(u)	describe, in the case of an activity which gives, or could give rise, to an emission containing a hazardous substance which is discharged to an aquifer and is specified in the Annex to Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances, the arrangements necessary to comply with said Council Directive,	-	✓
(v)	include any other information required under Article 6(1) of Council Directive 2008/1/EC of 15 January 2008 concerning integrated pollution prevention and control,	-	✓
(w)	include a non-technical summary of information provided in relation to the matters specified in paragraphs (f) to (v) above,	*A*	✓
(x)	state whether the activity consists of, comprises, or is for the purposes an establishment to which the European Communities (Control of Major Accident Hazards involving Dangerous Substances) Regulations, 2006(S.I. No. 74 of 2006) apply,	*B*	✓

Article 10(3) Without prejudice to Article 12(1), an application for a licence shall be accompanied by -		**Section in Application**	**Checked by Applicant ✓**
(a)	a copy of the relevant page of the newspaper in which the notice in accordance with article 6 has been published,	-	✓
(b)	a copy of the text of the site notice erected or fixed on the land or structure in accordance with article 7,	*B*	✓
(c)	a copy of the notice given to the planning authority under section 85(1)(a) of the Act,	*B*	✓
(d)	a copy of such plans, including a site plan and location map (no larger than A3), and such other particulars, reports and supporting documentation as are necessary to identify and describe -		✓
	(i) the activity	*Maps*	✓
	(ii) the position of the site notice in accordance with article 7,	*Maps*	✓
	(iii) the point or points from which emissions are made or are to be made, and	*Maps*	✓
	(iv) monitoring and sampling points, and	*Maps*	✓
(e)	a fee specified in accordance with section 94 of the Act.	*Envelope*	✓

Article 10(4)		**Checked by Applicant ✓**
(b)	A signed original and 2 hardcopies of the application and accompanying documents/particulars in hardcopy format plus 2 copies of all files in electronic searchable PDF format on CD-Rom shall be submitted to the headquarters of the Agency. In cases where an E.I.S. is required to be submitted to the Agency in support of the application, a signed original and 2 hardcopies of the EIS plus 16* copies of all files in electronic searchable PDF format on CD-Rom shall be submitted to the headquarters of the Agency. * Energy sector applicants = 18 copies	✓
	Hardcopies submitted.	✓
	CD version submitted.	✓

ATTACHMENT 1A

NON TECHNICAL SUMMARY

Company Background
Micam Ltd. (formerly Mica + Micanite Ltd) was established in 1966 and commenced operation at the Mallow site in 1967 producing industrial laminates, copper clad materials and specialist reinforced plastic products. In 1994 Micam commenced the production of printed circuit boards and ceased their production in 2011.

Micam Ltd has been ISO9001 certified since 1994. Micam Ltd is a privately owned Irish company currently employing 35 people at the Mallow factory.

The installation and its activities
Micam produces a range of reinforced plastic composite laminate materials for a variety of different industries.

The activities on site at the MICAM plant involve mixing resins, application of resins to reinforcement textile materials in an impregnation process with subsequent drying of the resins in the impregnation ovens. The dried fabrics known as prepregs are then either sold as moulding materials or further processed in house by converting them into sheets and stacking them under heat and pressure in a lamination press to form cured laminated sheets. Laminated sheets can then be sold as full sheets, be cut into panels or machined to form specific parts or assemblies. MICAM has a machine shop capability for CNC machining of the laminated sheets.
The production process is described in detail with flow diagrams in appendix D1.

The raw and auxiliary materials used
A comprehensive list of the materials used at MICAM is given in appendix G. The basic raw materials for our composite laminate materials are synthetic resins, textile reinforcements along with a variety of fillers and pigments to customise the properties of the laminates to customer requirements. The synthetic resins are mainly epoxy, silicone, phenolic and melamine resin. The reinforcement textile materials are based mainly on glass, nylon, polyester and cotton fabrics. In the resin mixing stage organic solvents are used to adjust the viscosity of the resin to a state suitable for the full impregnation of the resin into the reinforcement fabric. The main solvents in use are 1 methoxy-2-propanol and acetone. M.E.K, toluene and ethanol are also used.

The Energy used
Electricity and natural gas are the only energy sources used at MICAM. Natural gas is used to power the main plant boiler which produces the steam necessary for heating the lamination presses and impregnator ovens. Energy recovered after on site thermal oxidation processes are fed back to the process to maintain the heating requirements for the impregnator ovens. In 2011 MICAM invested approx 800K Euros in a site wide energy efficiency improvement programme. This project is already returning 16% savings in natural gas usage per unit turnover at the site.

Sources of emissions from the installation
The site has 3 impregnator ovens which give rise to solvent emissions from the process. Two of these impregnator ovens have individual thermal oxidiser abatement. The third impregnator has direct solvent emissions to atmosphere. The site has no process emissions to sewer or surface waters.

Environmental conditions of the site
The air emissions from site are currently monitored quarterly and are currently within the IPPC 247-01 licence limits with the exception of A2-14 CO emissions which we have requested a review of within this application. The noise emissions from site are monitored at boundary positions on an annual basis are within the current licence limits. A hydrogeological study was undertaken in 2002 which concluded that the groundwater beneath the site had not been impacted by the onsite operations. (after 36 years of laminate manufacturing). An onsite well is used to provide feed water for the main boiler and for cooling water. No soil analysis study has been undertaken.

The nature and quantities of foreseeable emissions from the installation
The expectation is that mass emissions will remain at current 2010 – 2011 levels and that the nature of those emissions with respect to air and noise will remain consistent. No significant effect of the emissions on the environment is expected.

Proposed technology and other techniques for prevention or reducing emissions from site.
Thermal oxidation has already been installed on two of the impregnator ovens to prevent solvent emissions. Solvent emissions are minimised by strictly controlled mixing and handling procedures.
Noise emissions from site have been reduced over the past number of years by a number of techniques such as relocation of equipment, providing sound insulating enclosures and managing the operating hours of the more noise sensitive processes.

Measures for the prevention and recovery of wastes generated by the installation.
The main wastes from the production process relate to off cuts of sheet laminate material when converting from full sheet form into the customer required form. MICAM produce material in a number of sheet sizes and during the contract review stage the production size is chosen to optimise the yield from the sheets and minimise waste. The waste off cuts from sheet material are reinforced thermosetting plastics and are therefore not suitable for conventional plastics recycling. These are currently landfilled. Laminate offcuts containing copper foil cladding are segregated for off site metal recycling as are paper, plastic film and metal wastes from the production.

Attachment B
IPPC Licence Review Application
May 2012

Attachment B.1

B.1.1 Certified Copy of the Certificate of Incorporation.

Short Certificate of Incorporation of a Company

(Electronic Form, for Public Service Use only)

I hereby certify

that company number **23898**,

MICAM LIMITED,

was incorporated under the Companies Act 1963

as a Limited Company on

Wednesday, the 29th day of June, 1966.

Certified by me at Dublin, this **Monday, the 14th day of May, 2012.**

([illegible])

Registrar of Companies

Helen Dixon

[illegible] Companies Act 2006, [illegible]

Note

[illegible] certificate of incorporation is furnished free of charge by [illegible] for public service use. A process has been put in place whereby where necessary, the certificate may be [illegible] public service body on inquiry to the registrar.

The applicant for any public service who receives and [illegible] certificate of incorporation must certify below that the certificate has not been tampered with in any way. The certificate shall be retained by the public service [illegible] delivery and may be used as evidence in any [illegible].

I, (name) PATRICK DUNLEA - FINANCE DIRECTOR, MICAM LTD.
of (address) BALLYGABBON, BLARNEY, CO. CORK

hereby declare that this is one and the same as the Certificate of Incorporation of the above company that was made available electronically, for public service use, at my request, by the registrar of companies.

I further declare that to the best of my knowledge, information and belief, the said Certificate has not been altered or amended in any way.

I acknowledge that it is a criminal offence to forge a public document with intent to defraud or deceive, and that it is an offence to utter a forged document with intent to defraud or deceive, in each case punishable with imprisonment for a term not exceeding ten years.

I make this Declaration for the benefit of

(name of public body) ENVIRONMENTAL PROTECTION AGENCY.

to whom I am furnishing the Certificate.

[signature] 14 MAY 2012

Signature of Applicant Date

[illegible] Act 1913, section 4 and 6

MICAM LTD.
MALLOW, CO. CORK.
Tel: +353 22 [illegible]
Fax: +353 22 [illegible]

Number 23898

Certificate of Incorporation on change of name

I hereby certify that

MICA & MICANITE (IRELAND) LIMITED

having, by a Special Resolution of the Company, and with the approval of the Minister for Enterprise, Trade and Employment, changed its name, is now incorporated as a limited company under the name

MICAM LIMITED

and I have entered such name on the Register accordingly

Given under my hand at Dublin, this

Thursday, the 8th day of February, 2001

for Registrar of Companies

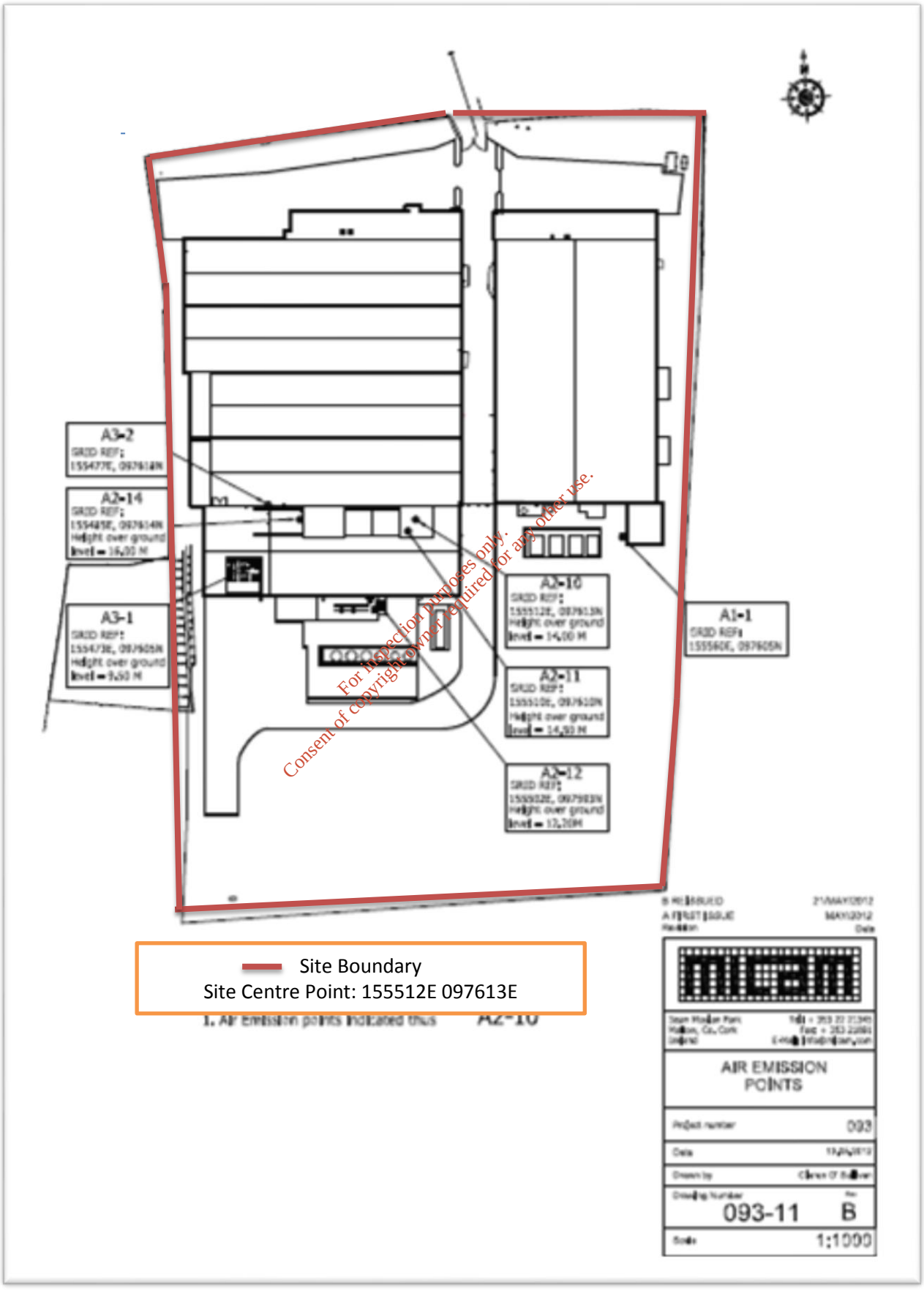
B.1.2 The Company's Registration Number from the Companies Registry Office is:

23898.

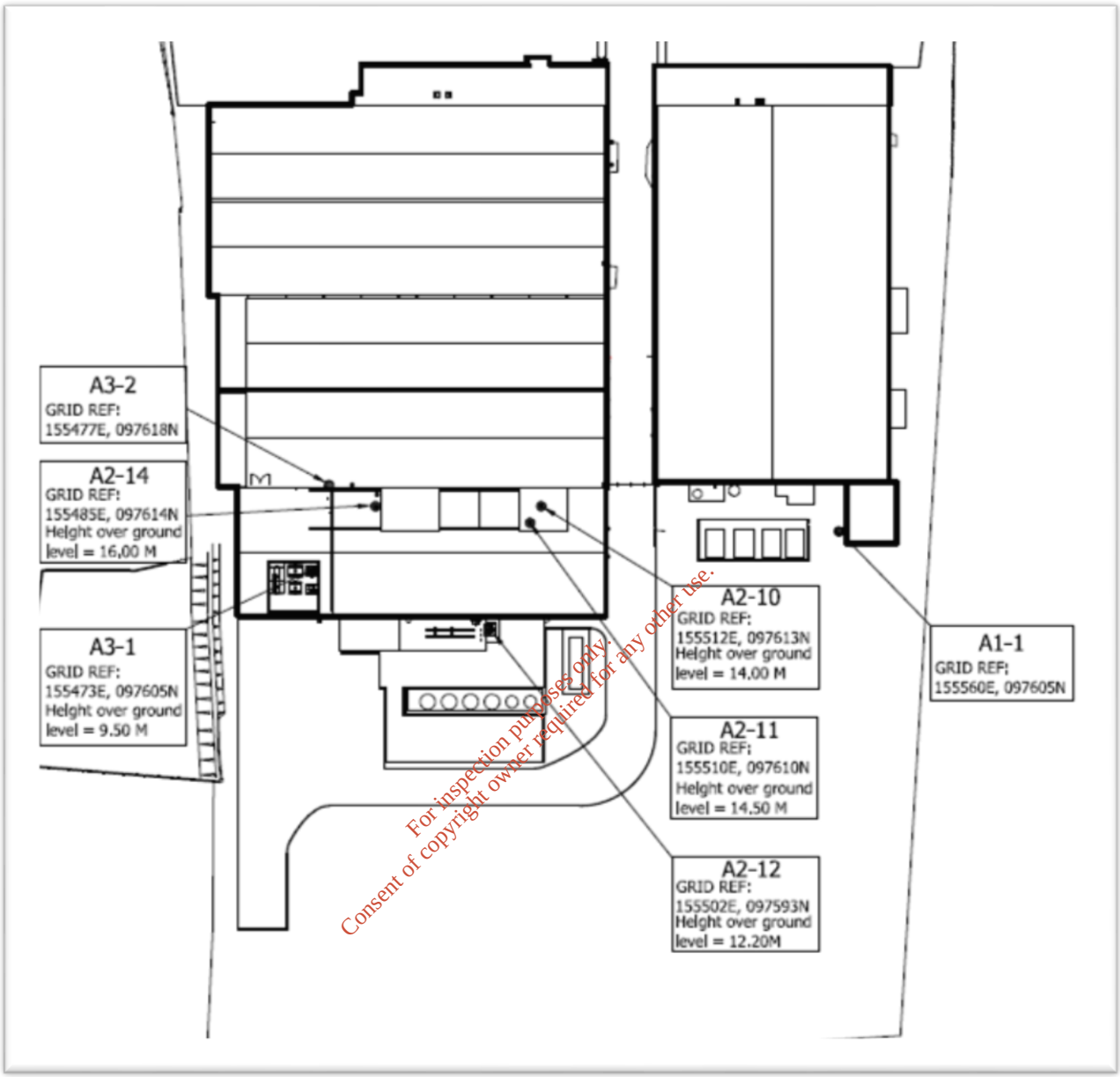
B.1.3 Particulars of Registered Office of the Company.

Micam Limited,
Sean Moylan Park,
Mallow,
Co Cork.

B.2 Site Map with Boundary



B.2.1 Air Emission Points



B.5 Planning Authority Details

The planning file is listed in the application form – there have been no additional buildings commissioned since the licence was first obtained.

The only licence held on site is the current IPPC licence.

A Natura Impact Statement has not been completed for the site.

B.6 Water Services Authority

No additional Information – only foul waters from site is discharged to sewer.

B.7 Regional HSE

No Additional Information

B.8 Site Notice, Newspaper and Planning Authority Notice

The newspaper notice was completed by the Agency as per correspondence sent by the Agency to Micam on the 28th March 2012.

A site notice has been erect at the front gate of the facility

A letter of notice has been sent to the planning authority, the text of the letter is as outlined below.

Site Notice

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR A LICENCE

We, Micam Limited, Sean Moylan Park, Mallow, Co Cork, hereby give notice that we intend to apply to the Environmental Protection Agency for an Integrated Pollution Prevention and Control Licence (IPPC). The Class of the Activity under Schedule 1 of the EPA Act 1992 and the POE Act 2003 is as follows:

12.2.2, Surface Coatings "The use of coating materials in process with a capacity to use at least 10 tonnes per year of organic solvent".

The application relates to the premises of the Applicant at Sean Moylan Park, Mallow, Co Cork – National Grid Reference E155533, N097646.

A copy of the application for the licence may be inspected at or obtained from the headquarters of the Agency at Johnstown Castle, Co Wexford as soon as is practicable after the receipt by the Agency of the application for the licence.

Planning Letter

Mallow Town Council,
Town Hall,
Mallow,
Co Cork.

Re: Application to the Environmental Protection Agency for an Integrated Pollution Prevention and Control Licence (IPPC).

Dear Sir/ Madam,

In accordance with Article 9 of the Environmental Protection Agency (Licensing) Regulations, 1994, we hereby give notice that:

Micam Limited, Sean Moylan Park, Mallow, Co Cork, hereby give notice that we intend to apply to the Environmental Protection Agency for an Integrated Pollution Prevention and Control Licence (IPPC). The Class of the Activity under Schedule 1 of the EPA Act 1992 and the POE Act 2003 is as follows:

12.2.2, Surface Coatings "The use of coating materials in process with a capacity to use at least 10 tonnes per year of organic solvent".

The application relates to the premises of the Applicant at Sean Moylan Park, Mallow, Co Cork – National Grid Reference E155533, N097646.

A copy of the application for the licence may be inspected at or obtained from the headquarters of the Agency at Johnstown Castle, Co Wexford as soon as is practicable after the receipt by the Agency of the application for the licence.

Yours faithfully,

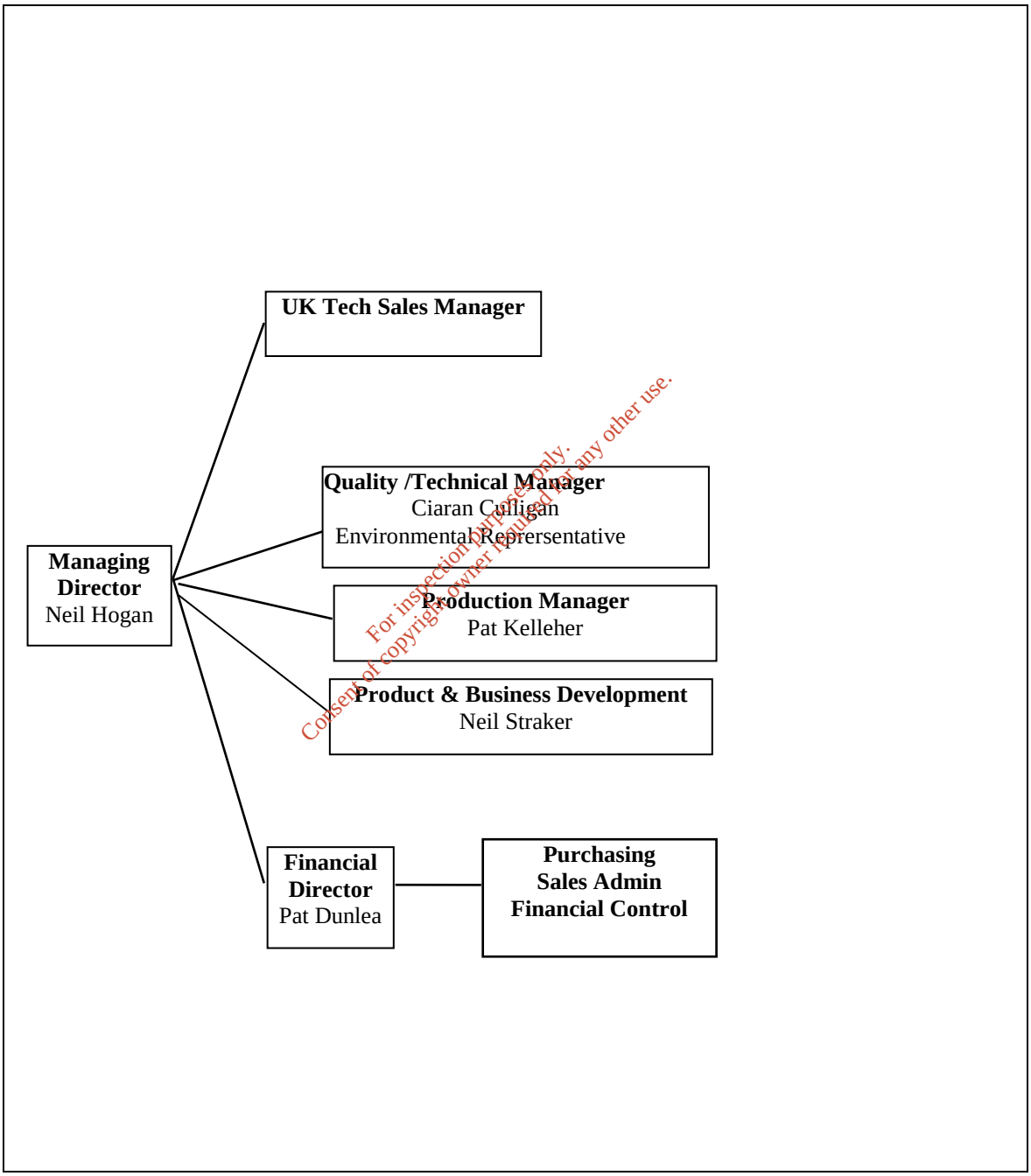
_____

Micam Limited

Attachment C
IPPC Licence Review Application
May 2012

C1 Site Management and Control.

Micam Limited is a wholly owned Irish Company and the Managing Director is ultimately responsible for site management and control. Specific responsibilities for environmental management and reporting to the Environmental Protection Agency are delegated through the Quality / Technical Manager. A summary of the Organisation Chart is presented below. The Quality / Technical Manager is the designated 'person in charge' in accordance with the EPA Act, 1992. In the absence of the Quality / Technical Manager, the Financial Director is the designated person in charge.



C2 Environmental Management System

Summary of Environmental Management System (EMS)

MICAM has developed an EMS that is designed to comply with the necessary conditions of the IPPC licence. The EMS comprises 2 elements.

- Defined routine environmental activities that make up the system controls and monitoring.
- A series of Environmental Management Programme (EMP) projects targeting continuous environmental improvements.

The Environmental Management System Manual is summarised as follows:

Environmental Management System (EMS) Contents

EM01 Environmental Policy Statement

EM02 EMS Process model

EM03 Management Review

EM05 Environmental Management Programme:

Routine Activities & Current Projects

EM06 Air Emissions Control

EM07 Sewer Discharges Control

EM08 Surface & Ground Water Protection

EM09 Boundary Noise Control

EM10 Waste Management

EM11 Environmental Training

EM12 Handling Requests from the public

EM13 Handling Environmental Complaints

EM14 Environmental Record Keeping

EM15 Environmental Corrective Action Procedure

EM16 Environmental Purchasing Policy

Appendices:

ERP1 Emergency Response Procedure.

The system has been developed in line with licence requirements and has not been certified as this was not a requirement of the licence.

2012 Environmental Management Programme

In the 2010 MICAM AER we reported that MICAM was embarking on a 2 year site improvement programme which covered several important environmental aspects. This programme was accelerated in 2011 and most aspects of the project were completed in 2011. The investment in this project was on the order of EUR 800K.

Energy Management

Heat losses from piping and processes were addressed in 2011 along with resolving the general problem of large heat losses from the buildings in winter-time. In 2011 MICAM carried out a large scale project that replaced the entire roof areas of the 2 factory buildings with a modern insulated roofing material which has now resulted in a significant reduction in heat loss and noise emissions from the buildings while improving the visual impact of the buildings. Energy intensive processes were consolidated, steam piping to those processes were re-routed and additional insulation installed to improve the energy transfer efficiency. New thermal insulation was added to the factory main boiler, condensate return tanks, lamination presses and heat recovery units. A new computer based energy monitoring system was also installed to support energy management activities on site.
Initial estimates indicate that these measures are providing a 16.5 % reduction in our natural gas usage per unit turnover and a 7.2 % reduction in electricity usage per unit turnover.

Fugitive Emissions

In 2011 a comprehensive fugitive emission study was carried out to determine the level for fugitive solvent emission from the mixing and impregnation processes and from tank storage losses. The report concluded that the total fugitive losses were in the order of 3.7% and complaint with the requirements of the Solvent Regulations.

Waste Segregation and recycling

Segregation of waste materials and recycling were targeted for improvement in 2011 and a bailer unit was purchased to enable waste plastic films and cardboard waste to be compacted and bailed/strapped into easily handled units.

In 2012 MICAM plan to continue efforts in the areas of energy management, waste segregation and recycling. A review will also be carried on site bunding and improving localised bunding where required. The emergency response procedure will be reviewed and updated as required. The 2012 environment management programme will also allocate significant resources to the collection of data and the preparation of an application for the licence review seeking a change of class of IPPC licence activity to 12.2.2 – use of coating in processes with a capacity to use at least 10 tonnes of organic solvent and seeking a review of certain ELVs.

C.3 Hours of Operation

(a) Existing hours of operation.

Office hours 9am to 5pm Monday to Friday.

Boiler Plant starts up at 7am on Monday morning , shutdown Friday night.

Impregnation operation occurs from 10am Monday to 6am Saturday.

Lamination Pressing occurs from 10am Monday to 6am Saturday.

Machine Shop operations normally 8am – 6pm Monday – Friday.

Sawing operations normally 8am – 6pm Monday – Friday.

MICAM operates 48 weeks per year and normally does not work on weekends or holidays.

(b) Proposed hours of construction and development works and timeframes.

Not applicable, currently no construction or development works underway.

(c) Any other relevant hours of operation expected.

None

Attachment D
IPPC Licence Review Application
May 2012

Company Description
Micam Ltd. (formerly Mica + Micanite Ltd), was established in 1966 and commenced operation at the Mallow site in 1967 producing industrial laminates, copper clad materials and specialist reinforced plastic products. In 1994 Micam commenced the production of printed circuit boards and ceased production their 2011.

Micam Ltd has been ISO9001 certified since 1994.
Micam Ltd is a privately owned Irish company currently employing 35 people at the Mallow factory.

Product Range
Micam produces the following product range, mainly for the export market.

- Specialised prepregs – glass and other fabrics impregnated with epoxy, melamine, phenolic and silicone resin systems.
- Decorative laminates and the Wall panelling systems based on composite materials
- Industrial composite laminates - fabric and glass reinforced laminates based on epoxy, melamine, phenolic and silicone resin systems.
- Limited Fire Hazard Material - electrical insulation and decorative laminates with enhanced fire limiting properties.
- Copper clad laminates- composite materials for use in printed circuit board manufacture.
- Plastic Machined Components - CNC machined components based on reinforced laminates.

Laminate Production Process

The preliminary stage in laminate production involves the preparation of synthetic resin solutions. In the Resin Mixing process solvents are added to adjust the solution viscosity, hardener & catalysts are added in conjunction with filler materials and pigments as required to achieve the desired properties.

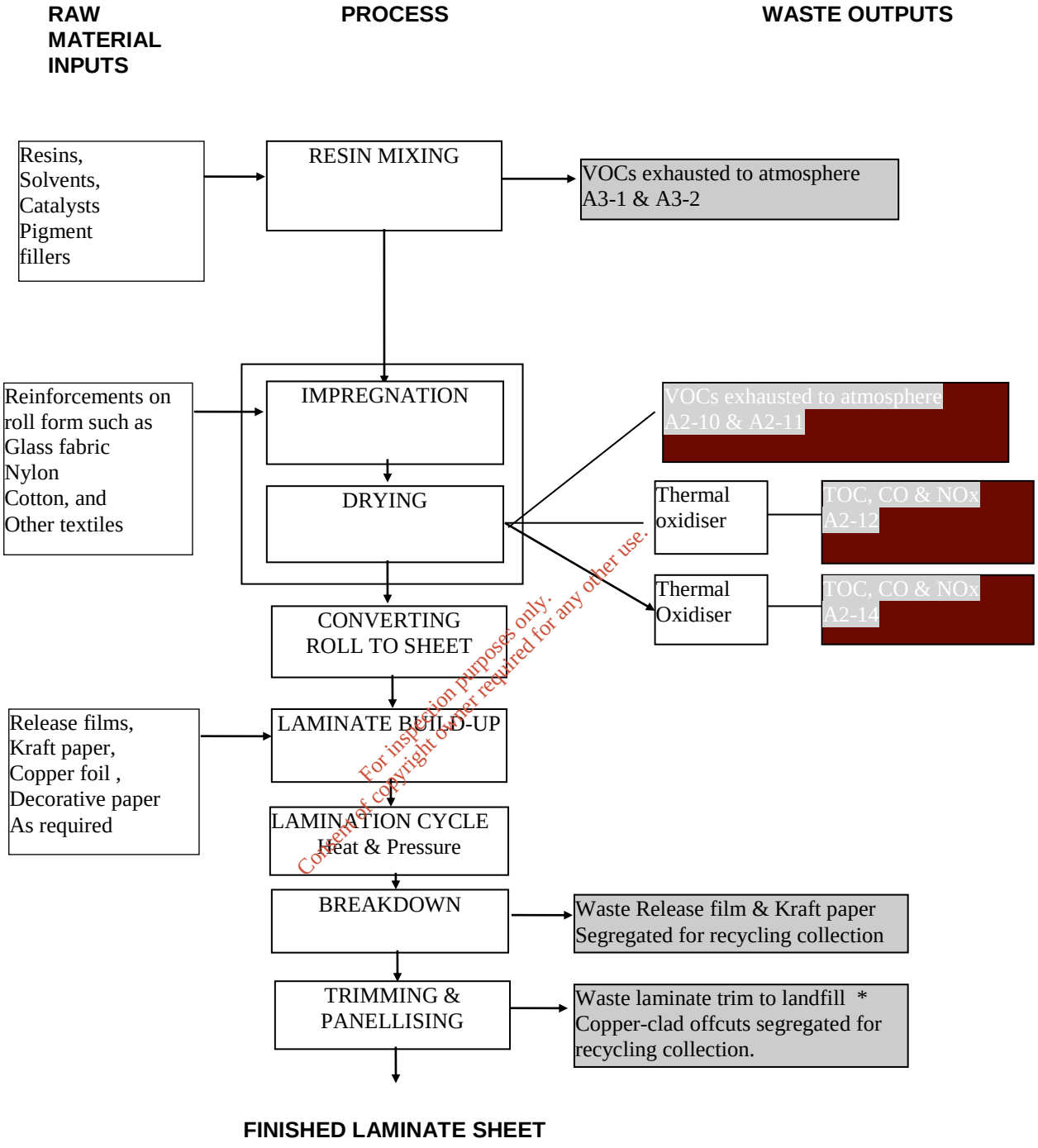
The resin mix is then transferred / pumped to one of 3 impregnation machines.
In the impregnation machine a roll of glass cloth or other reinforcement material such as nylon, cotton or other textile material is brought together with the resin in a dip pan under controlled conditions such that the resin is physically impregnated into the textile reinforcement material

As the resin impregnated textile emerges from the dip pan it enters a drying oven stage. In the oven stage solvents are driven off. Solvent fumes are treated in thermal oxidisers (A2-12 and A2-14) in the case of 2 of the impregnators. In the case of the 3rd impregnator solvent emission go directly to atmosphere through emission points A2-10 and A2-11. In the drying stage the resin impregnated textile undergoes a partial curing or advancement of polymerisation and the material emerges from the process as a dry material known as ‘pre-preg’.

As the prepreg exits the impregnation process it is either wound up on the roll or it is cut into sheets automatically using an inline guillotine. Prepregs can be sold as roll materials or can be laminated at MICAM into pressed sheets.

In the lamination process layers of prepreg are stacked together. Outer layers of copper or decorative papers may be added to the prepreg stack to achieve the product construction and depending on the requirements of the final application. In the lamination cycle the stack undergoes a heat and pressure cycle in a steam heated hydraulic press. The stack is typically heated to 100 – 180 deg C and cured for several hours. The press is then cooled with cooling water and product returned to room temperature.
After the lamination cycle the product is fully cured. The cured sheets are then cut to size using guillotines for thinner materials or on a saw for thicker sheets. The laminate process flow diagram showing raw material inputs, process and waste outputs is shown below

LAMINATE PRODUCTION FLOW PROCESS AT MICAM.

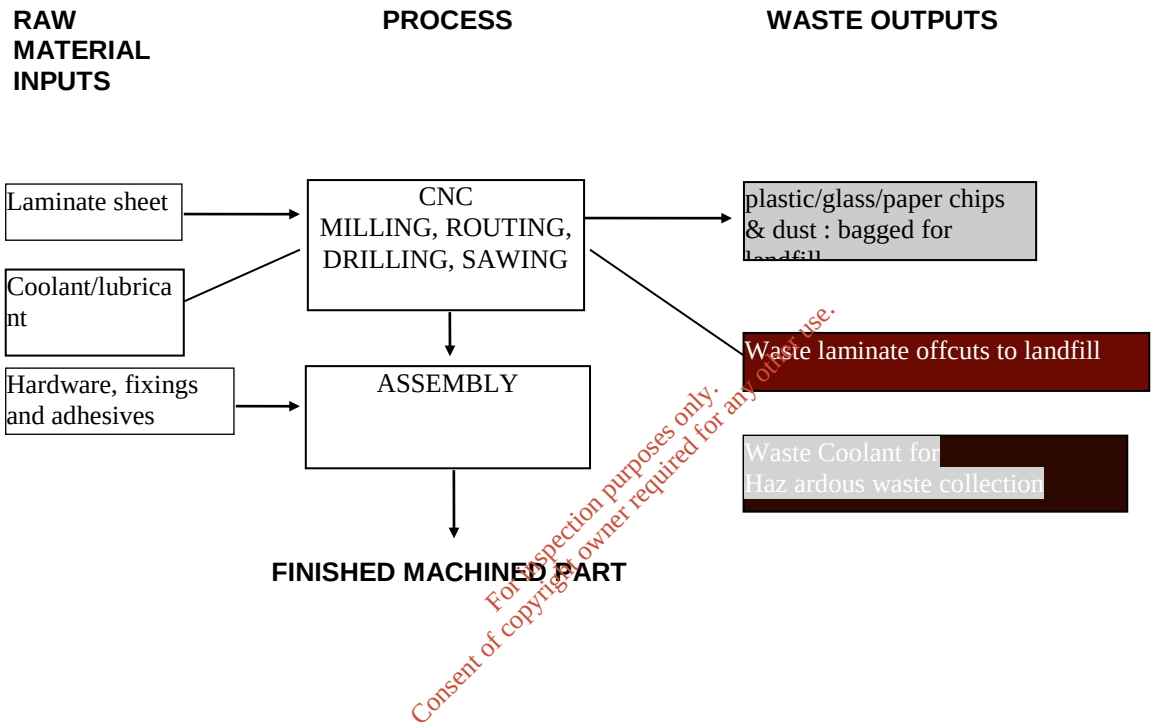


* note : plastic laminate trim contains thermosetting plastics which cannot be re-melted and recycled like conventional thermoplastics.

Machined Component Production process

Machined reinforced plastic components are manufactured from MICAM laminates using a combination of CNC milling/ routing, sawing and drilling. Machined component assemblies are manufactured by joining machined parts using mechanical and adhesive bonding techniques. These assembly processes where required are all done by hand. The process flow diagram for machined components is shown below.

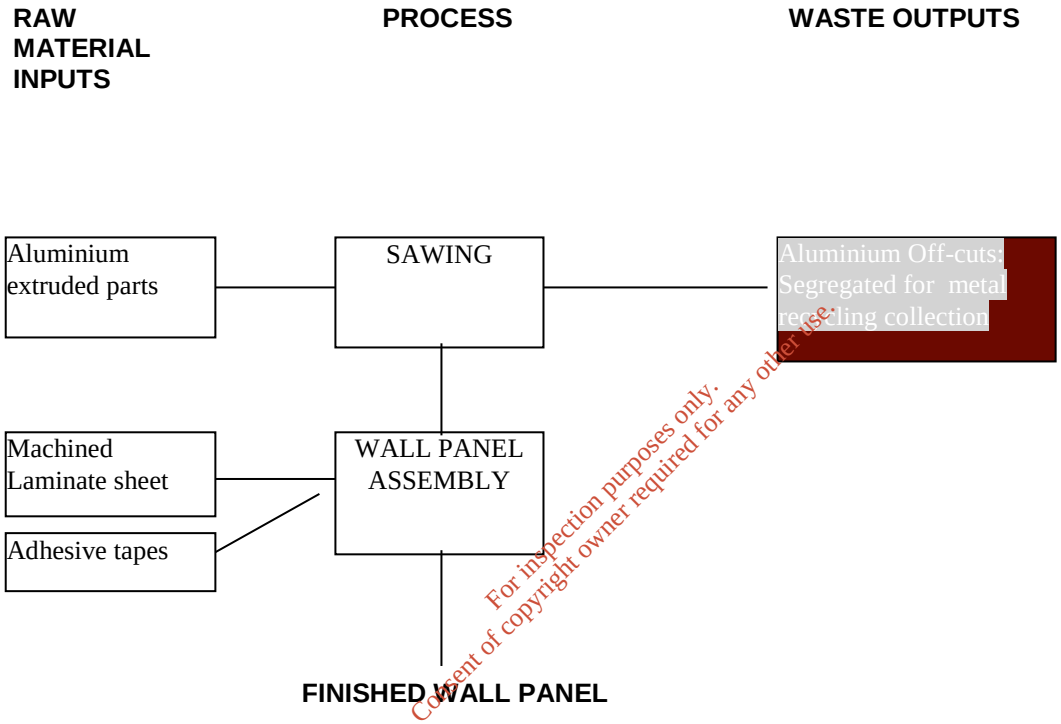
PLASTIC MACHINED COMPONENT PROCESS FLOW AT MICAM



Wall Panel Assembly production process

The wall panel assembly process is similar to the machined component assembly process. Machined decorative laminate panels are fitted with cut aluminium edge trim by hand using special double sided adhesive tapes.

WALL PANEL SYSTEM PROCESS FLOW AT MICAM



Facilities and equipment used in the MICAM production process

4 bulk storage tanks for resin and solvents

Mixing vats for resins

Pumps and piping network for transfer of resins / solvents

3 impregnator units

3 steam heated lamination presses

2 press plate cleaning machines

Guillotines

Saws

4 CNC machines

Materials handling equipment

Forktrucks

Weighing scales

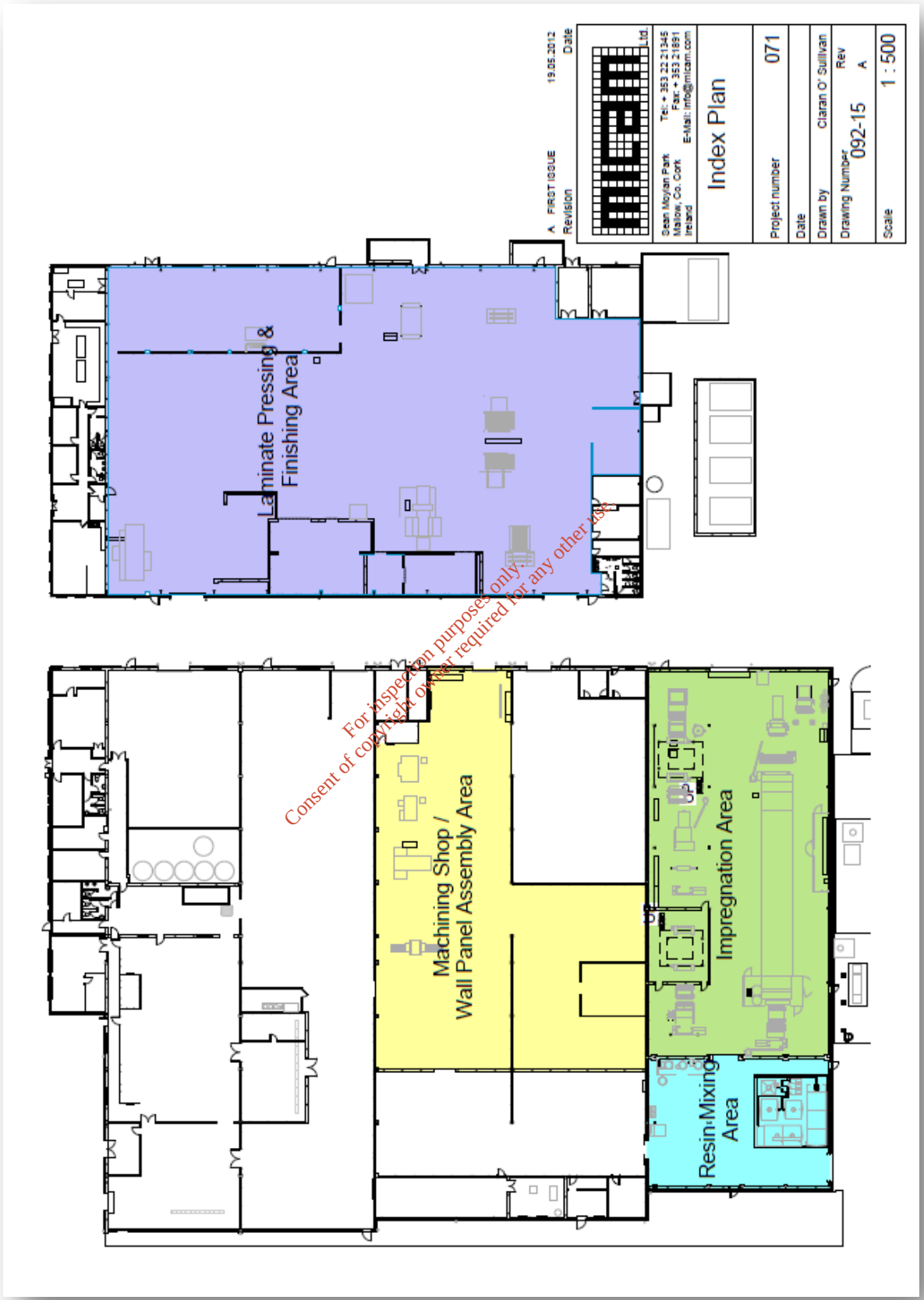
Materials testing equipment

Steam boiler unit and steam network piping.

The Steam boiler is fuelled by natural gas and this provides the steam necessary for heating the 3 lamination presses and the ovens of 1 impregnator unit.

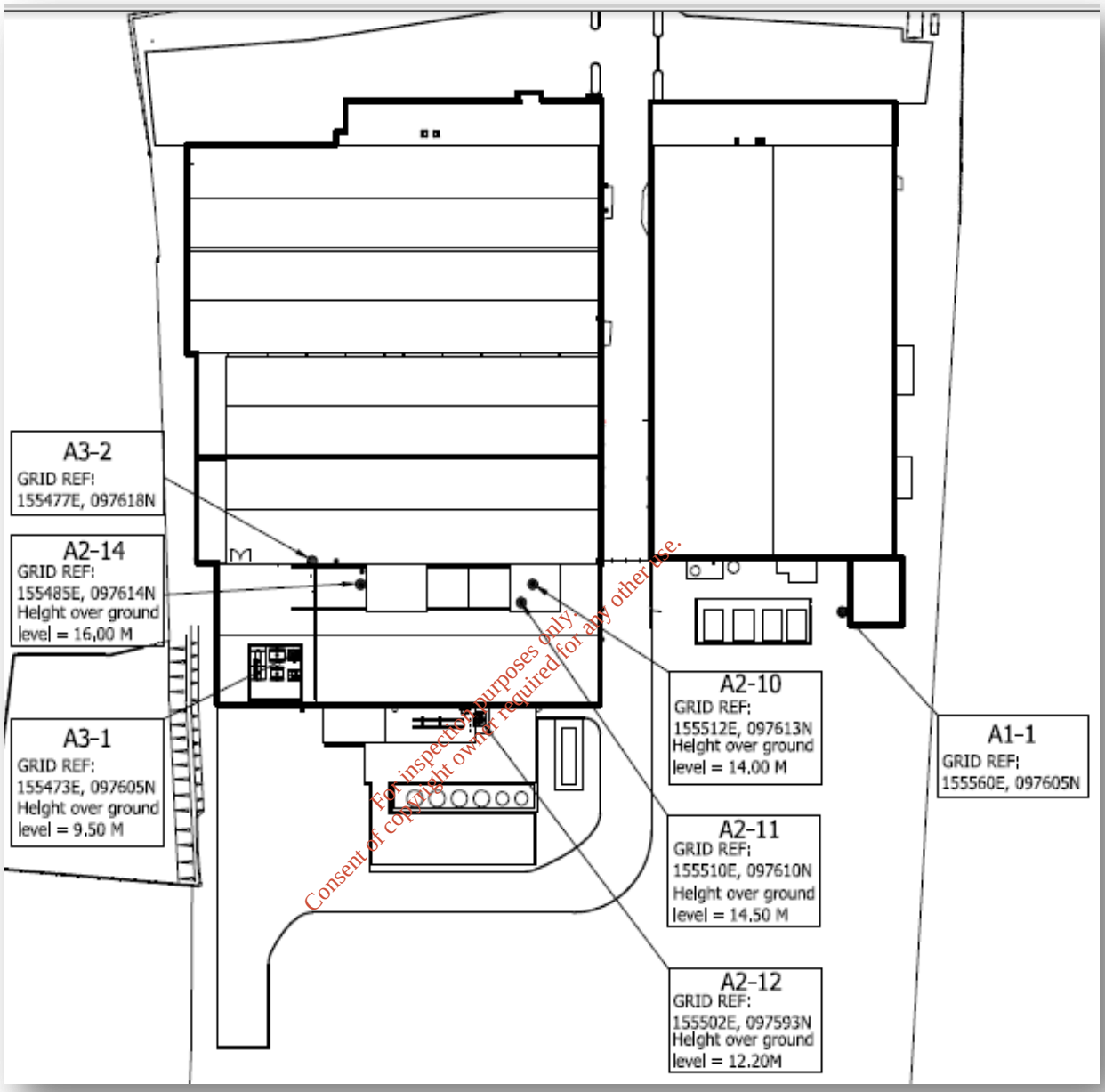
2 of the impregnators are fitted with thermal oxidisers and integrated heat recovery systems which provide the heat necessary for the oven sections of the impregnators. The thermal oxidisers are powered by natural gas.

Site Plan



Attachment E
IPPC Licence Review Application
May 2012

E1 Map of Location, Co-ordinates and Stack Heights of the Emission Points



E.1.1 S.I. No. 394 of 2004

Air

(1) Sulphur dioxide and other sulphur compounds	Not Applicable
(2) Oxides of nitrogen and other nitrogen compounds	Addressed
(3) Carbon monoxide	Addressed
(4) Volatile organic compounds	Addressed
(5) Metals and their compounds	Not Applicable
(6) Dust	Not Applicable
(7) Asbestos (suspended particulates, fibres)	Not Applicable
(8) Chlorine and its compounds	Not Applicable
(9) Fluorine and its compounds	Not Applicable
(10) Arsenic and its compounds	Not Applicable
(11) Cyanides	Not Applicable
(12) Substances and preparations which have been proved to possess carcinogenic or mutagenic properties or properties which may affect reproduction via the air	Not Applicable
(13) Polychlorinated dibenzodioxins and polychlorinated dibenzofurans	Not Applicable

E.1.B Fugitive Emissions Report

Fugitive Emissions Report September 2011

Micam Limited

Sean Moylan Park,
Mallow,
Co Cork

Licence Number P0247-01

Report Date: 20th September 2011

Report Number:
1130-11-04
Version 0

AXIS environmental services
40 Coolraine Heights, Old Cratloe Road, Limerick
Phone: (061) 324587 Mobile: (087) 6367436
info@axisenv.ie www.axisenv.ie

Report for the Calculation of 2010 Fugitive Emissions to Air

Part 1:	Summary Details
IPC Licence No:	P0247-01
Operator:	Micam Limited
Installation:	Sean Moylan Park, Mallow, Co Cork
Contact Name:	Ciaran Culligan
Contact No.	022 21345
Contract Technician:	Mark Mc Garry
Monitoring Dates:	09th September 2011
Monitoring Organisation:	AXIS environmental services
Address:	40 Coolraine Heights, Old Cratloe Road, Limerick
Date of Report:	20th September 2011
Report Approved By:	Mark Mc Garry
MCERTS Reg. No.	**MM05 573**
Function:	Environmental Manager
Signed:	

Contents

Executive Summary

AXIS environmental services were commissioned by Micam Limited to complete a fugitive emissions survey for the site to assess the company's compliance with S.I. 543 of 2002 – Emissions of Volatile Organic Substances from Organic Solvents Regulations 2002.

The survey incorporated solvent losses from external storage tanks and building losses from numerous solvent using processes on site.

The contents of the storage tanks were:

- Acetone;
- Dowanol;
- Epoxy Resin in two tanks comprising approximately 25 - 30% solvent content.

The main building and process areas assessed as part of this survey were:

- Vits Vertical Impregnator
- Impla Vertical Impregnator
- Resin Mixing Vat area

There is an additional major process on site that was not operating on the day of the survey, the horizontal impregnator. However this machine is never operational on site when the Vits and Impla Verticals are working due to the energy requirements needed for all. Therefore it was considered appropriate to carry out the fugitive emissions survey with the more commonly used equipment in operation and to make a likely overestimation that the horizontal would have the same fugitive emissions as the sum of the other two.

Fugitive emissions were calculated by:

- Direct measurement of solvent emissions and flow rates from local extracts in the building using a portable FID and velocity meter;
- Ambient locations around the building was monitored using PID technologies;
- Tank losses were calculated using emissions estimation software "TANKS4"

The site consumed approximately 146 tonnes of Solvent in 2010, classifying Micam greater than 15 tonnes of solvent per year threshold. The total solvent losses were determined at 5.41 tonnes in 2010, which was calculated at 3.7% of the total solvent input for that year.

The Agency has classified Micam under Schedule 2, Activity 8 for other coatings. The calculated losses are well within the limit applied to Micam under the solvent regulations of 20% of the total annual solvent input.

1.0 Introduction

Micam Ltd is a privately owned Irish company currently employing 35 people at its factory at Mallow, Co. Cork Micam Ltd. (formerly Mica + Micanite Ltd), was established in 1966 and commenced operation at the Mallow site in 1967 producing industrial laminates and copper clad laminates. In 1994 Micam commenced the production of printed circuit boards. Circuit board production ceased in 2011.

Micam Ltd. was granted its IPPC licence in 1999, reg P0247-01, under class 13.2 “Manufacture of Integrated and printed circuit boards"

Micam currently produces the following range of reinforced plastic composite products mainly for the export market.

Pre-impregnated materials:

* Specialised prepregs - glass and other fabrics impregnated with epoxy, melamine, phenolic and silicone resin systems.

Composite Laminates:

* Decorative laminates and the wall paneling systems based on composite materials

* Industrial composite laminates - fabric and glass reinforced laminates based on epoxy, melamine, phenolic and silicone resin systems.

* Limited Fire Hazard Material - electrical insulation and decorative laminates with enhanced fire limiting properties.

* Copper clad laminates- composite material for use in printed circuit board manufacture.

Machined Components:

* Plastic Machined Components - CNC machined components based on reinforced laminates.

Production Hours

MICAM operates it production for 46 weeks per year, with certain process operating day shift Mon-Fri and other processes operating 24 hours per from Monday morning to Friday night.

Objective of report.

MICAM Ltd have employed the services of Axis Environmental Services to determine the level of fugitive solvent emissions from its process and to determine whether the facility is compliant with the Solvent Regulations - S.I no. 543/2002 - Emission of volatile organic compounds from organic solvents regulations 2002.

2.0 Methodology

2.1 Ambient Monitoring and Building Losses

The main building was segregated into four distinct areas for the purposes of loss determination.

2.1.2 Impla Vertical

There are fugitive losses from certain areas along the machine which are vented to atmosphere through two roof vents.

Direct readings were obtained close to the vents when the equipment was in full production by Photo Ionisation Detector (PID). The average reading over a 30 minute period was used for assessment of losses.

2.1.2 Vits Vertical

The Vits vertical is housed in a separate part of the building and fugitive emissions from this machine are removed through four vents on the top floor.

Direct readings of organic compounds were measured using Flame Ionizing Detectors (FID). Results were obtained from each of the four draft vents over a period of time whilst the equipment was in full mode of operation. Flow rates at each of the vents were also attained through direct measurement to determine mass losses per hour.

2.1.3 Resin Mixing VAT Area

There are three tanks used in this area to make up mixed product as required on site. There is alternating use of the tanks depending on which product is been manufactured.

The site has a calibrated industrial weighting scale in this area which was used to determine solvent losses from the mixing tank over a batch produced. There was an initial weight determined on the VAT on application of all components to the tank. This undergoes heating and mixing over a specified period of time. Weight loss before and after production at equivalent temperature of the resin was indicative of the solvent concentration lost to atmosphere.

2.2 Tank Losses

Breathing losses from the storage tanks were determined in line with the USEPA methodology and supported software “TANKS4”. There were four storage tanks onsite with the following solvents stored therein:

- Acetone;
- Dowanol - The composition of the product is >99.5% 1-Methoxy-2-propanol;
- Epoxy Resin DER 537 in one tank comprising approximately 30% solvent content (Major constituent was 20% MEK and 10% 1-Methoxy-2-propanol)
- Epoxy Resin DER 652 in a second tank comprising approximately 25% solvent content (Major constituent was MEK)

Weather conditions closest to the site were imported into the software; data for which was obtained from the MET Eireann.

3.0 Fugitive Emissions Monitoring

The Vits Vertical Machine was in operation for 3,408 hours in 2010 in total; however solvent is only applied to the process for 90% of the running time. For this reason, the fugitive emission from the machine would only occur for 3,067 hours per year.

The same procedure would be applied to the Impla vertical which operated for a total of 3,312 hours in 2010; solvent was only applied for approximately 90% of the time or 2,981 hours in that period.

The horizontal impregnator ran for 982 hours in 2010. This machine is only operated when the other two impregnators are off. As this process was not available on the date of monitoring, we will be assuming that this would generate the same concentration of fugitive emission as the vertical Vits and Impla machines running together. This assumption would likely result in an over-estimation of fugitive emissions; however is the most practical assumption to be made for the purpose of compliance assessment.

The Vits impregnator was determined to release approximately 3.3 tonnes of solvent as fugitive emission. Details of the measurement results and calculations are included in Appendix III of this report.

The Impla Impregnator was calculated to emit 0.4 tonnes of solvent during 2010.

The horizontal impregnator was therefore calculated to be emitting approximately 1.0 t of solvent per year.

The master resin mix tank losses were determined through direct weight measurement. The VAT was observed to lose approximately 8 kg of solvent over a 2 day period. There were 56 mixes made up in 2010 which would equate to approximately 0.448 tonnes per year as a percentage of solvent products used in the mix.

The total fugitive emissions from process operations on site were summarised as follows:

- Vits Impregnator 2010: 3.3 tonnes per year
- Impla Impregnator 2010: 0.4 tonnes per year
- Horizontal Impregnator 2010: 1.0 tonnes per year
- Master Resin Mix Tank 2010: 0.5 tonnes per year
- **Total Emissions:** **5.2 tonnes per year**

4.0 Fugitive Emissions Tank Losses

There are four solvent tanks used to hold four different materials consumed on site as part of process activities. To calculate the emission losses from these tanks, “TANKS4” software was used. The software was updated with met data from the closest monitoring station to the production facility which was Cork airport for the wind speed and Fermoy for minimum/ maximum temperatures. The program was updated to include the products used in Micam using MSDS provided for the products. Where the software could not be updated with chemical properties, a chemical with the closest properties was used.

The table below summarises data produced by the model:

Tank Number	Working Losses	Breathing Losses	Total Losses
	Tonnes	Tonnes	Tonnes
Tank 1	0.023	0.114	0.138
Tank 2	0.003	0.013	0.016
Tank 3	0.002	0.010	0.012
Tank 4	0.003	0.041	0.044
Total Fugitive Emission			**0.210**

5.0 Summary of Results

A summary of the fugitive emissions lost from site during 2010 are as follows:

- Vits Impregnator 2010: 3.3 tonnes per year
- Impla Impregnator 2010: 0.4 tonnes per year
- Horizontal Impregnator 2010: 1.0 tonnes per year
- Master Resin Mix Tank 2010: 0.5 tonnes per year
- **Fugitive Emissions: 5.2 tonnes per year**

- Tank 1 2010: 0.138 tonnes per year
- Tank 2 2010: 0.016 tonnes per year
- Tank 3 2010: 0.012 tonnes per year
- Tank 4 2010: 0.044 tonnes per year
- **Fugitive Emissions: 0.210 tonnes per year**

Therefore the total solvent fugitive losses from the site were approximately 5.41 tonnes in 2010.

The solvent regulations require that fugitive emissions from this site must be less than 20% of the total solvent input for the year. The solvent input is defined in the regulations as:

Solvent Input = Solvent consumed + Solvent recovered and Reused on site

Solvent Consumption is defined as Purchases + Opening Stock – Closing Stock.

Taking these factors into account the total solvent input in 2010 was 146 tonnes of solvent consumed between neat form and the constituents of Epoxy resins.

The percentage of solvent lost to atmosphere through fugitive emissions was calculated as follows:

(Calculated Fugitive Losses / Solvent Consumption) * 100

Using this method of calculation, the fugitive emissions from Micam during the calendar year 2010 was determined at 3.7% of Solvent Input. This would indicate Micam are fully compliant with Schedule 2, Activity 8 of the Solvent Regulations which requires the company to have recorded losses less than 20% of total solvent input.

6.0 Conclusions

The 2010 volume of fugitive emissions from Micam Ltd have been assessed. The main source of fugitive emissions on site was estimated from the Vertical Vitz impregnator. Other significant sources included the horizontal impregnator (assumed) and the Vertical Impla. Losses from solvent tanks were low in comparison.

The solvent regulations under Schedule 2, Activity 8 require the company to ensure the fugitive emissions from this site are below 20% of the total solvent input to the site. It has been estimated from measurement, calculation and modeling that the total loss from this site in 2010 was 3.7% of the Solvent input, rendering this site compliant with the Regulations.

Appendix I TANKS4 Raw Data

Tank 1 Acetone

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Micam Tank 1
City:	Cork
State:	Mallow
Company:	Micam
Type of Tank:	Horizontal Tank
Description:	Acetone

Tank Dimensions

Shell Length (ft):		13.00
Diameter (ft):		9.00
Volume (gallons):		5,800.00
Turnovers:		2.75
Net Throughput(gal/yr):		15,950.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	Gray/Light
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Mallow Cork Ireland, Ireland (Avg Atmospheric Pressure = 14.5 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

Micam Tank 1 - Horizontal Tank
Cork, Mallow

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight
Acetone	All	51.81	47.03	56.60	50.24	2.3622	2.0754	2.6811	58.0800			58.08

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

Micam Tank 1 - Horizontal Tank
Cork, Mallow

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Acetone	52.10	253.30	305.40

Tank 2 Dowanol

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Micam Tank 2
City:	Cork
State:	Mallow
Company:	Ireland
Type of Tank:	Horizontal Tank
Description:	1 Methoxy 2 Propanol

Tank Dimensions

Shell Length (ft):	13.00
Diameter (ft):	9.00
Volume (gallons):	5,880.00
Turnovers:	2.40
Net Throughput(gal/yr):	14,112.00
Is Tank Heated (y/n):	N
Is Tank Underground (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Light
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Mallow Cork Ireland, Ireland (Avg Atmospheric Pressure = 14.5 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

Micam Tank 2 - Horizontal Tank
Cork, Mallow

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia)	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Isopropyl alcohol	All	51.81	47.03	56.60	50.24	0.3639	0.2944	0.4237	60.0900			60.09	Option 2: A=8.1177, B=1580.92, C=219.61

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

Micam Tank 2 - Horizontal Tank
Cork, Mallow

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Isopropyl alcohol	7.15	29.09	36.24

Note: In the absence of 1 methoxy 2 propanol in the chemical list, the chemical with the closest properties to this was used. In this instance Isopropyl alcohol was chosen.

Tank 3 DER 537 PMK70 Epoxy Resin

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Micam Tank 3
City:	Cork
State:	Mallow
Company:	Micam
Type of Tank:	Horizontal Tank
Description:	DER 537

Tank Dimensions

Shell Length (ft):		13.00
Diameter (ft):		9.00
Volume (gallons):		5,800.00
Turnovers:		2.50
Net Throughput(gal/yr):		14,500.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	Gray/Light
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Mallow Cork Ireland, Ireland (Avg Atmospheric Pressure = 14.5 psia)

Emissions Report for: Annual

Micam Tank 3 - Horizontal Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Isopropyl alcohol	0.88	3.80	4.68
Methyl ethyl ketone	4.22	18.23	22.45

Note: In the absence of 1 methoxy 2 propanol in the chemical list, the chemical with the closest properties to this was used. In this instance Isopropyl alcohol was chosen.

Tank 4 DER 652 EK75 Epoxy Resin

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Micam Tank 4
City:	Cork
State:	Mallow
Company:	Micam
Type of Tank:	Horizontal Tank
Description:	DER 652

Tank Dimensions

Shell Length (ft):		13.00
Diameter (ft):		9.00
Volume (gallons):		4,399.00
Turnovers:		1.00
Net Throughput(gal/yr):		4,399.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	Gray/Light
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):		-0.03
Pressure Settings (psig)		0.03

Meterological Data used in Emissions Calculations: Mallow Cork Ireland, Ireland (Avg Atmospheric Pressure = 14.5 psia)

Micam Tank 4 - Horizontal Tank
Cork, Mallow

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
DER 652	All	51.81	47.03	56.60	50.24	0.8486	0.7326	0.9795	72.1000			72.10	
Methyl ethyl ketone						0.8486	0.7326	0.9795	72.1000	0.2500	0.2500	72.10	Option 2: A=6.8645, B=1150.207, C=209.246
Unidentified Components						0.8486	0.5608	0.8050	72.1000	0.7500	0.7500	72.10	

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

Micam Tank 4 - Horizontal Tank
Cork, Mallow

Components	Losses(lbs) Working Loss	Breathing Loss	Total Emissions
Methyl ethyl ketone	1.60	22.79	24.39
Unidentified Components	4.81	68.36	73.17

Appendix II Met Data used in the Model

Month	Max Temperature		Min Temperature		Avg Windspeed	
	°C	°F	°C	°F	Knots	mph
Jan	6.2	43.2	1.8	35.24	9.1	10.5
Feb	7.1	44.8	1	33.8	8.8	10.1
Mar	10.1	50.2	1.3	34.34	9.5	10.9
Apr	13.9	57.0	3.6	38.48	8.4	9.7
May	16	60.8	6	42.8	7.9	9.1
Jun	20	68.0	10	50	8.3	9.5
Jul	19.4	66.9	11.5	52.7	9.1	10.5
Aug	19.3	66.7	10.1	50.18	8.9	10.2
Sep	17.5	63.5	10	50	9	10.4
Oct	14.5	58.1	6.2	43.16	11.8	13.6
Nov	8.8	47.8	1.9	35.42	10.5	12.1
Dec	4.4	39.9	1.9	35.42	8.9	10.2
Average	**13.1**	**55.6**	**5.4**	**41.8**	**9.2**	**10.6**

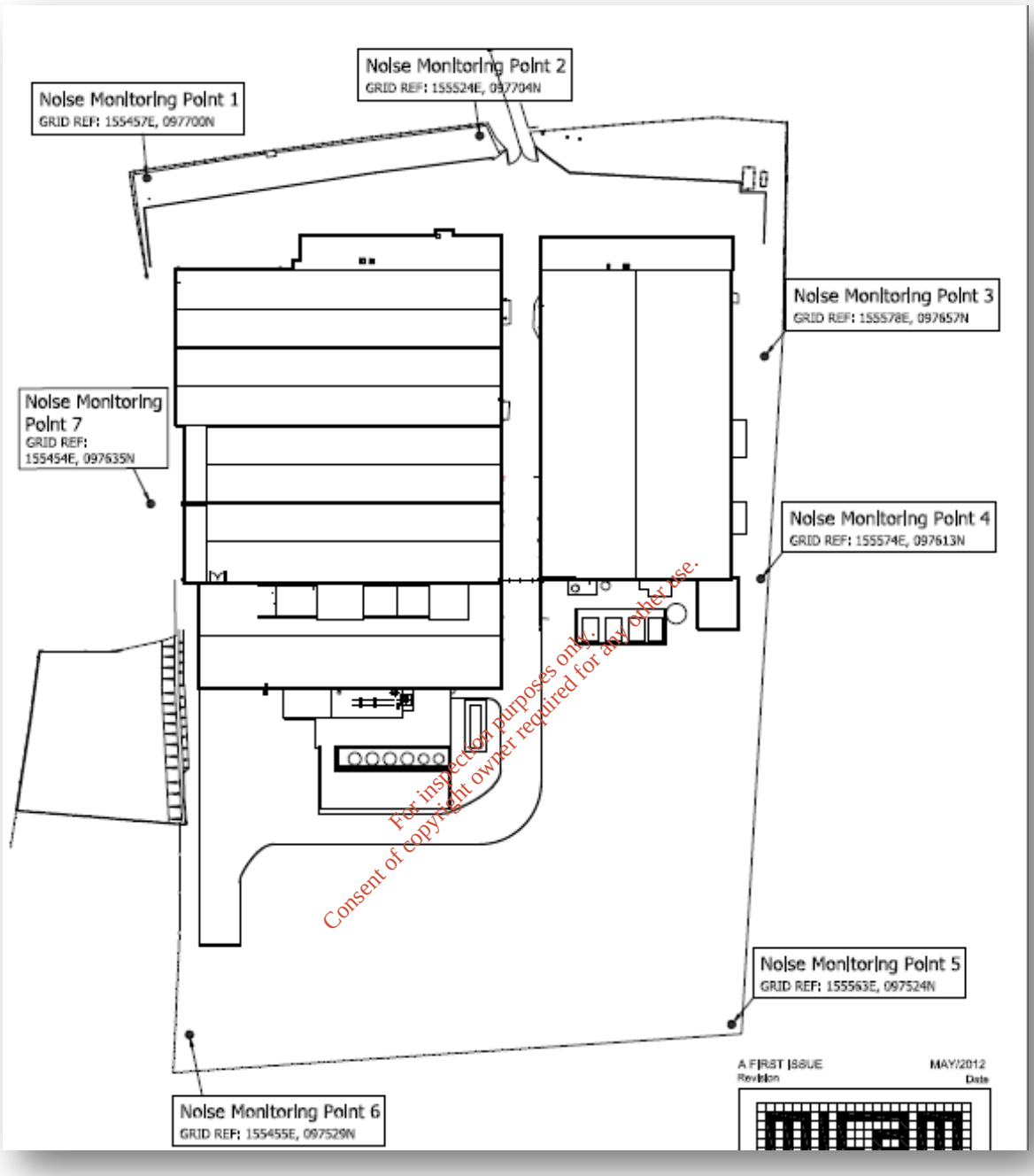
Vent	ppm	Carbon Related Response Factor/Toluene	mg/m3 as C	Area	Velocity	Flow rate	m3/hr	mg/hr	kg/hr	
1	375	161.25	604.7	0.25	0.5	0.13	450	272109	0.27	
2	381	163.83	614.4	0.25	0.6	0.15	540	331756	0.33	
3	366	157.38	590.2	0.25	0.4	0.10	360	212463	0.21	
4	359	154.37	578.9	0.25	0.5	0.13	450	260499	0.26	
							1800	Total	1.08	kg/hr
									3067.2	hrs/year
									3302.8	kg/year (Toluene Equivalent)
									3.3	t/year as C (Toluene Equivalent)

Impla Vertical Fugitive Emissions				Vent Details						
Vent	ppm	Carbon Related Response Factor/ Methanol	mg/m3 as C	Area	Velocity	Flow rate	m3/hr	mg/hr	kg/hr	
1	35	140	75	0.532	0.5	0.266	957.6	71820	0.07182	
2	35	140	75	0.532	0.5	0.266	957.6	71820	0.07182	
							1915.2	Total	0.14	kg/hr
									2980.8	hrs/year
									428.2	kg/year as C (Methanol Equivalent)
									0.4	t/year as C (Methanol Equivalent)

Horizontal Impregnator		
Hours Per Year	912	Hours/2010
Fugitive Emission Rate	1.1	Vits Vertical kg/hr
	0.1	Impla Vertical kg/hr
Percentage of Time Solvent Addition to the Machine	90	%
Total Emissions	1.0	tonnes per year

Vits Response Factors		Impla Response Factors Methanol	
fRC	0.99	fRC	0.75
Av	1	Av	1
nB	3	nB	3
Cvx	0.43	Cvx	4.00
nx	7	nx	1

E.5 Noise Monitoring Location Map



E.6 Emission Point Summary

Point Code	Point Type	Easting	Northing	Verified	Emission
A2-10	A	155512	097613	Y	Organic Compounds
A2-11	A	155510	097610	Y	Organic Compounds
A2-12	A	155502	097593	Y	TOC NOX CO
A2-14	A	155485	097614	Y	TOC NOX CO

Appendix G List of Raw materials, substances used in the MICAM Process

Non-Hazardous Materials

Material / Substance	Tonnes Stored	Annual usage	Nature of Use	Composition	%	CAS NO.	Danger Category	R Phrase	S Phrase	Hazard Statement	Odour		
											yes/no	description	threshold
Glass Fabrics	25	140	plastic re-inforcement	continuous filament glass fibre	>99	65997-17-3	none	none	none	NA	No	NA	NA
TFP Textiles	5	16	plastic re-inforcement	continuous filament glass fibre	15 - 20	65997-17-3	none	none	none	NA	NO	NA	NA
				mineral wool	21 - 28	287922-11-6					NO	NA	NA
				exfoliating graphite	4 - 25	7782-42-5					NO	NA	NA
						231-955-3					NO	NA	NA
				polymer binder	30 - 50	not listed					NO	NA	NA
Nylon fabric	1	1	plastic re-inforcement	continuous nylon filament	100	25038-54-4	none	none	none	NA	No	NA	NA
Cotton fabric	1	1	plastic re-inforcement	woven cotton fabric	100	NA	none	none	none	NA	NO	NA	NA
Kraft paper	10	20	cushioning for presses	paper	100	NA	none	none	none	NA	NO	NA	NA
Copper foil	3	15	cladding of laminates	copper	>99.5	7440-50-8	none	none	none	NA	NO	NA	NA
Aluminium parts	2.5	5	wall panel assy	aluminium	>95	91728-14-2	none	none	none	NA	NO	NA	NA
PE Film	3	10	packaging	polyethylene	100		none	none	none	NA	NO	NA	NA
release film	12		release film		100		none	none	none	NA	NO	NA	NA
Dicyandamide	1	3	resin hardener	Cyanoguanidine	>99.5	461-58-5	none	none	none	NA	NO	NA	NA
China Clay BLR2	1	1	additive to resin	Calcium Carbonate	100	1317-65-3	none	none	none	NA	NO	NA	NA
ON908, ATH	20	80	additive to resin	Aluminium hydroxide	>99	21645-51-2	none	none	none	NA	NO	NA	NA
Cab-O-Sil M5	0.1	0.1	additive to resin	synthetic amorphous silica	>99.9	112945-52-5	none	none	none	NA	NO	NA	NA
Mowital / Pilioform	0.1	0.1	additive to resin	Poly Vinyl Butyral rubber	>97.5	63148-65-2	none	none	none	NA	NO	NA	NA

Synthetic Resins

Material / Substance	Tonnes Stored	Annual usage	Nature of Use	Composition	%	CAS NO.	Danger Category	R Phrase	S Phrase	Hazard Statement	Odour		
											yes/no	description	threshold
DER 652-EK80	19	50	plastic base material	Bisphenol A epoxy resin	80	25068-38-6	Xi	R11 R36/38 R43 R67	S9 16 28 S37/39	Highly flammable irritating to eyes and skin, may cause sensitisation by skin contact, vapours may cause drowsiness and dizziness	Yes	solvent odour	No data
				M.E.K	20	78-93-3	F, Xi						
DER 537 - pmk75	19	50	plastic base material	brominated Bisphenol-A epoxy	75	26265-08-7	Xi	R11 R36/38 R67	S9 16 S24/25	Highly flammable irritating to eyes and skin, vapours may cause drowsiness and	Yes	solvent odour	No data
				M.E.K	20	78-93-3	F, Xi						
				1-methoxy 2-propanol	10	107-98-2	F						
DER 592-A80	1	4	plastic base material	brominated Bisphenol-A epoxy	80	not listed	Xi	R11 R36/38 R66 R67	S9 18 26	Highly flammable irritating to eyes and skin, repeated exposure may cause skin dryness and cracking, vapours may cause drowsiness and dizziness	Yes	solvent odour	No data
				acetone	20	67-64-1	F, Xi						
NPEB-400	0.2	0.5	plastic base material	brominated bisphenol-A epoxy solid polymer	100	40039-93-8	none	none	none	none	NO	none	NA
DER331	<6	20	plastic base material	epoxy liquid polymer	100	25068-38-6	Xi , N	R36/38 43 51/53	P280 P273 P303/361/353 P305/351/338 P391 P501	irritating to eyes and skin, may cause sensitisation by skin contact, toxic to aquatic organisms, may cause long term effects in the aquatic environment	No	none	NA
TSR -125A	6	30	plastic base material	Silicone Resin	60	not listed	none	R11 38 48/20 65 63 67	S2 36/37 46 62	Highly flammable, irritating to skin, Harmful danger of serious damage to health by prolonged exposure through inhalation, may cause lung damage if swallowed, possible risk of harm to unborn child, vapours may cause drowsiness or dizziness	Yes	solvent odour	No data
				Toluene	40	108-88-3	F, Xn, repr cat 3						
Aralink 46-422-M55	5	15	plastic base material	Methanol	30-60	67-56-1	T, F	R23/24/25 R39/23/24/25 R68 R36/38	S 26 27 38 45 S24/25 S36/37/39 S60	Toxic by inhalation, in contact with skin and if swallowed, danger of very serious irreversible effects, irritating to skin and eyes.	Yes	characteristic	No data
				Formaldehyde	0 - 1	50-00-0	T, Carc3						
				Phenol	1 - 5	108-95-2	T, Xn, Muta cat3						
Aralink 46-800	1	1	plastic base material	Phenol	10 - 30	108-95-2	T, Xn, Muta cat3	R23/24/25 R48/20/21/22 R40 R68 R43 R11	S9 16 25 26 27 R36/37/39 S38 45 60	Toxic by inhalation, in contact with skin and if swallowed, limited evidence of carcinogenic effect, possible risk of irreversible effects, may cause sensitisation by skin contact, highly flammable.	Yes	characteristic	No data
				Formaldehyde	2	50-00-0	T, Carc3						
				isopropanol	30 - 60	67-63-0	F						

Prefer 4865	1	2	plastic base material	melamine formaldehyde polyme Formaldehyde	90-100 <0.5	not listed 50-00-0	Xi	R43	S22 24 37	may cause sensitisation by skin contact	slight		
unsaturated polyester	3	15	plastic base material	poly ester polymer	>97	26-098-37-3	none	none	none	none	No	none	NA
DAPS	<1	5	plastic base material	Diallyl Phthalate monomer	100	131-17-9	Xn , N	R22 R50/53		Harmful if swallowed, very toxic to aquatic organisms, may cause long term effects in the aquatic environment	Yes		

ORGANIC SOLVENTS

Material / Substance	Tonnes Stored	Annual usage	Nature of Use	Composition	%	CAS NO.	Danger Category	R Phrase	S Phrase	Hazard Statement	Odour		
											yes/no	description	threshold
M.E.K	0.5	1	resin mixing	M.E.K (2-Butanone)	100	78-93-3	F, Xi	R11 36 66 67	P210 P305/351/338 P261 P304/341 P280 P311	Highly flammable, irritating to eyes, repeated exposure may cause skin dryness or cracking, vapours may cause drowsiness or dizziness.	Yes	solvent odour	No data
Dowanol-PM	18	55	resin mixing	1-methoxy 2-propanol 2-methoxy 1-propanol	>99.5% <0.5%	107-98-2 1589-47-5	F	R10 R67	P210 P233 P240 P370/378 P403/233	Flammable, vapours may cause drowsiness or dizziness	YES Yes	solvent odour solvent odour	No data No data
Acetone	18	45	resin mixing	Acetone	100	67-64-1	F, Xi	R11 36 66 67	P210 243 280 P305/351/338 P313	Highly flammable, irritating to eyes, repeated exposure may cause skin dryness or cracking	YES	solvent odour	No data
IMS	1	1	resin mixing	Ethanol	>95	64-17-5	F	R11 R20/22	S7 16 24 45 S1/2	Highly flammable, harmful by inhalation and if swallowed	YES	solvent odour	No data
Toluene	1	6	resin mixing	Toluene	100	108-88-3	F, Xn, rep cat 3	R11 20, 63, 48/20, 38,65,67	S2 36/37 46 62	Highly flammable, harmful by inhalation, possible risk of harm to unborn child, irritating to skin, may cause lung damage if swallowed, vapours may cause drawsiness or dizziness.	YES	solvent odour	No data
Iso-propanol	0.05	0.2	adhesive thinning	Iso-propanol	100	67-63-0	F, Xi	R11 36 67	S7 16 24/25 26	Highly flammable, irritating to eyes, vapours may cause drowsiness or dizziness	YES	solvent odour	No data
3M 86A promoter	<0.05	0.1	surface bonding	solvent solvent polyamide	55 - 65 30 - 40 5 - 10	67-63-0 71-23-8 68989-76-4	F, Xi	R11 36 41 67		Highly flammable, irritating to eyes, risk of serious damage to eyes, vapours may cause drowsiness or dizziness	YES YES No	solvent odour	No data No data

Resin Hardeners

Material / Substance	Tonnes Stored	Annual usage	Nature of Use	Composition	%	CAS NO.	Danger Category	R Phrase	S Phrase	Hazard Statement	Odour yes/no	Odour description	Odour threshold
DDS	<0.5	< 0.5	resin hardener	4-Aminophenyl Sulfone	99	80-08-0	Xn	R22	S22	Harmful if swallowed	No	NA	
Dyhard L20	1	1	resin hardener	N,N Dimethylformamide	25	68-12-2	T, Xn, Xi	R 20/21 36 61rep2	P261 280 P303/361/353 P304/340 P305/351/P338 P308/P313	Harmful by inhalation and in contact with skin, irritating to eyes, may cause harm to the unborn child	Yes	characteristic	No data
2MI	0.1	0.1	resin hardener	2 Methyl Imidazole	100	693-98-1	Xn, C	R22 R34/41	S22 26 36/37/39	Harmful if swallowed, caused burns, risk of seroius damage to eyes.	No	NA	NA
Aradur HT973 BF3	0.1	0.1	resin hardener	Boron trifluoride/amine complex	100	75-23-0	Xn	R22	S24/25	Harmful if swallowed	No	NA	NA
URR ACC43	0.1	0.1	resin hardener	substituted urea & silica	100	not listed	none	none	none	none	No	NA	NA
CR24	0.1	0.1	resin hardener	propan-2-ol	20 - 30	67-63-0	F, Xi, Xn	R11 36 63 67	S9 26 36/37	Highly flammable, irritating to eyes, possible risk of harm to unborn child, vapours may	yes	characteristic	No data
				2-ethylhexanoic acid	7 - 10	149-57-5							

Pigments & additives

Material / Substance	Tonnes Stored	Annual usage	Nature of Use	Composition	%	CAS NO.	Danger Category	R Phrase	S Phrase	Hazard Statement	Odour yes/no	Odour description	Odour threshold
Alco Farbpaste Typ Epoxi Schwarz	0.25	1	pigment	epoxy liquid resin	50-100	25068-38-6	Xi , N	R36/38 R43 R51/53	S24 26 37 38 61 2	Irritating to skin and eyes, may cause sensitisation by skin contact, toxic to aquatic organisms, may cause long term effects in the aquatic environment	Yes	faint	No data
				gamma-butyrolacton	12- 20	96-48-0							
Nigrosine Base BA	0.12	0.12	pigment	azine dye, C.I solvent black 7	100	not listed	none	R33	none	No known significant effects or critical hazards. Danger of cumulative effects.	No		
West Senior EP pigments	0.1	0.1	pigment	Epoxy	40-50	25068-38-6	Xi, N	R43 R36/38 R51/53	S26 37 24/25 57 60 6	irritating to eyes and skin, may cause sensitisation by skin contact, toxic to aquatic organisms , may cause long term effects in the aquatic environment	slight		
				Bis-F epichlorohydrin resin	20-30	28064-14-4							
				Aliphatic Glycidylether	10-20	68081-84-5							
Thane Dispersions	0.2	0.2	pigment	Not classed as hazardous			none	None	none	none			
USR-2C Black	<0.25	0.5	pigment	2,2-bis butyl acrylate	20 - 30	15625-89-5	Xi	R36/38 R43	S26 28 39	irritating to eyes and skin, may cause sensitisation by skin contact	Yes	faint acrylic	
				2-hydroxyethyl methacrylate	1 - 10	868-77-9							
Diethylene Glycol	0.05	0.1	resin additive	Diethylene Glycol	>99	111-46-6	Xn	R22		Harmful if swallowed			
PAT656/BR3	0.05	0.25	release agent	fatty acid derivatives		not listed	none	none	none	none			

Miscellaneous non-raw materials

Material / Substance	Tonnes Stored	Annual usage	Nature of Use	Composition	%	CAS NO.	Danger Category	R Phrase	S Phrase	Hazard Statement	Odour		
											yes/no	description	threshold
ECO Cool MB	0.2	0.5	lub/coolant	blend of refined mineral oils			Xi	R36	S25 26	irritating to eyes			
WM111	0.3	1.5	water treatment	sodium bisulphite	30-40	7631-90-5	Xn	R 22 31 37	S24/25 26 28 36/37/39	with acid liberates toxic gas, irritating to respiratory system	Yes	pungent	No data
Turbex	0.1	0.5	water treatment	aqueous soln of long chain inorganic phosphate with surface active polymer		7958-29-4	Xn	R22	S24/25 26 28 36/37/39	Harmful if swallowed			
caustic soda	0.025	0.05	water treatment	sodium hydroxide	30%	1310-73-2	C	R35	S 26 37 39 45	causes severe burns	No	NA	NA
ammonia solution	0.025	0.025	etch lab testing	ammonia hydroxide	30%	1336-21-6	C Xi	R34 36/37/38 50	S 2 23 24/25 26 39	causes burns, irritating to eyes, skin and respiratory system, very toxic to aquatic organisms	Yes	pungent	
Thermal Oil shell S2	1		heat recovery	refined mineral oils	100%	not listed	none	none	none	not classified as hazardous	Yes	slight hydrocarbon	No data
Hydraulic Oil	0.2	0.2	hyrdaulic press	refined mineral oils	100%	not listed	none	none	none	not classified as hazardous	yes	slight hydrocarbon	No data
granulated sea salt	1	12	boiler water treatment	sodium chloride	100	7647-14-5	none	none	none	NA	NO	NA	NA

IPPC Application
Attachment H2
P0247-01

H.2 Describe the arrangements for the recovery and disposal of solid and liquid wastes accepted into or generated by the Installation/ Facility

Waste Material	Description of waste	Source of Waste	Where Waste is stored	Integrity of storage area	m^3 or tonnes stored	Period of generation	Analysis Results	EWC Code	Hazardous (Y/N)
	Reinforced plastic offcuts and plastic machining wastes	After sawing, cutting or machining sheets	Compactor skip , outdoors on concrete hardstand	Not bunded	35 m3	continuous		200139	N
	Waste plastic films	Used release film form lamination process & packaging waste	After bailing, strapping and palletised, sits on outdoor concrete hardstand	Not bunded	< 2 tonne	continuous		150102	N
	Waste kraft paper & cardboard	Used Cushion material from lamination presses and packaging waste	After bailing, strapping, it is weatherproofed with shrink wrap and stored outdoor on concrete hardstand	Not bunded	< 2 tonne	continuous		150101	N
	Copper off-cuts	Cutting of copperclad laminate sheets	Stored in palletised cardboard boxes Indoor storage area	Not bunded	< 5 tonne	continuous		200140	N
	Aluminium off-cuts	Cutting of aluminium extrusions	Stored in wooden pallet crate , indoor storage area	Not bunded	< 2 tonne	continuous		200140	N
	Empty steel drums	Empty raw material containers	Outdoor hardstand area	Not bunded	< 2 tonne	continuous		150104	N
	Waste coolant oil/water emulsion	Used coolant/lubricant from CNC milling machines	IBC or plastic drums in ourdoor bunded drum compound	Bunded	1 m3	continuous		120107	Y
	Waste Oils	Used hydraulic or thermal oils	IBC or plastic drums in ourdoor bunded drum compound	Bunded	1 m3	When oil changes are required		130308 130111	Y
	Waste Resin containing solvents	Expired or contaminated raw material not suitable for production	IBC or drums in ourdoor bunded drum compound	Bunded	Only occur as exceptional case Qty unknown			080409	Y

Attachment I
Existing Environment and impact of the Activity
May 2012

I.1 Assessment of Atmospheric Air Emissions

Table 1: SI No 394 of 2004

SI No 394 of 2004 Schedule of Parameters	Present on Site
Sulphur dioxide and other sulphur compounds	No
Oxides of nitrogen and other nitrogen compounds	Yes
Carbon monoxide	Yes
Volatile organic compounds	Yes
Metals and their compounds	No
Dust	No
Asbestos (suspended particulates, fibres)	No
Chlorine and its compounds	No
Fluorine and its compounds	No
Arsenic and its compounds	No
Cyanides	No
Substances and preparations which have been proved to possess carcinogenic or mutagenic properties or properties which may affect reproduction via the air	No
Polychlorinated dibenzodioxins and polychlorinated dibenzofurans	No

Table 2: Current Licence Limits

Emission Point	Max Flow Rates Nm^3/hr	NOx mg/Nm^3	CO mg/Nm^3	TOC mg/Nm^3	TA Luft Organics Class II Kg/hr	TA Luft Organics Class III Kg/hr
A2-10	550	-	-	-	0.15	0.15
A2-11	3,500		-	-	5.0	1.25
A2-12	12,000	200	100	20	-	
A2-14	5,000	200	100	20	-	

Table 3: Proposed Licence Limits

Emission Point	Max Flow Rates Nm^3/hr	NOx mg/Nm^3	CO mg/Nm^3	TOC mg/Nm^3	TA Luft Organics Class I Kg/hr	TA Luft Organics Class II Kg/hr	TA Luft Organics Class III Kg/hr
A2-10	550	-	-	-	0.10	0.15	5
A2-11	3,500	-	-	-	0.10	0.5	6.25
A2-12	12,000	200	100	20	-	-	-
A2-14	5,000	200	400	20	-	-	-

I.1.1 Impact Assessment

I.1

As part of the application process Micam Limited are required to undertake an assessment of the impacts to air quality as a result of emissions to air from the plant.

It is not anticipated there will be any environment impact as result of this licence review. There are no major emission points added to the process. The only major change from that submitted and approved in the original licence would be a reduction in the mass emissions of TA luft Class II compounds for alternative and less harmful Class III.

There is also an increase requested for CO on A2-14 from 100 to 400 mg/m3. This will have minimal impact on the local environment as the actual mass emission from the stack would be much less than that currently allowed for under licence.

I.2 Impact on Receiving Surface Water

This is not applicable to the site as there are no emissions to surface water on site

I.3 Impact of Sewer Discharge

This is not applicable as there are no discharges to sewer, excluding domestic sewage.

I.4 Impact of Groundwater

There is no impact on groundwater's from site activities. There are 2 storm water soakaway's on site.

I.5 Groundwater Contamination

There have been no incidents or spills on site that would give rise to groundwater contamination.

I.6 On site Waste Recovery

There is no on site waste recovery on site.

I.7 Noise Impact

There is no significant impact on the local community from activities on site as has been summarised in Table I.7(i) of the application. Noise surveys have been completed on site since the licence was obtained and there have not been any issues in terms of noise pollution. The limits applied in the licence are comfortably met without the presence of tonal or impulsive qualities.

I.8 BAT Assessment

BAT Guidance Requirements	Techniques Used on site	Compliance with BAT
BAT – General Preventative Measures		
Operate an EMS	EMS in place	YES
Carry out appropriate Training	Training in place	YES
Optimise Activities	Production optimised	YES
Plan and establish the operational procedures	Operational procedures & Quality Management system to ISO9001:2008 in place	YES
Carry out regular solvent balances		YES
Carry out regular measurement	Monitoring and reporting as per existing IPPC licence	YES
Use materials with lowest possible environmental impact	MICAM are continually assessing raw materials and have a successful track record to replacing hazardous substances with more safety and environmentally friendly alternatives	YES
Replace solvents with Risk Phrases R45, R46, R49, R60 and R61	Solvent currently in use do not have these risk phrases	YES
Replace substances with risk phrases R58, R59, R50/53 where alternatives exist	No R58 or R59 substances on site. Storage of R50 limited to Max 1 tonne Storage of R51/53 limited to Max 10 tonnes	YES
Planned maintenance programme	PM programme in place	YES
Identify hazards and pathways and implement a plan of actions for pollution prevention	There are plans and procedures in place on site	YES
Minimisation of Material Consumption		
Automating surface treatment	Impregnation process is an enclosed continuous automated process	YES
Use reusable containers as far as possible	Main resin and solvents are supplied in bulk tanker. Returnable IBCs are used where possible.	YES
Where quantity of coating / solvent in use is sufficient use fixed pipework for coatings/ solvent supply with pig clearing for coatings	Fixed pipework in place between storage tanks, mixing tanks and impregnation process.	YES
Conserve raw materials and water by recycling, cascade rinsing, ion exchange, membrane filtration, or other concentration techniques and control measures	Process cooling water is recycled.	YES
Use programmable scales for mixing coating materials	All resin mix components are weighed to specified proportions	YES
Use batch coating or colour grouping where possible		YES
Where the quantity of coating in use is sufficient, use in line paint mixing equipment for two component coatings	Paint mixing equipment not applicable	NA

Minimisation of Energy Consumption		
Minimise the amount of extraction air from process areas	YES, impregnator oven extraction rates have been optimised to provide sufficient extraction rates while keeping %LEL within safe limits.	YES
Put controls on the extraction system	Flammable gas monitors in place on extraction systems and differential pressure sensors on extraction systems.	YES
Seek opportunities to use excess heat from thermal oxidation and maintain autothermic conditions	Heat from thermal oxidiser systems is fully recovered to provide the heating used in the impregnation oven process.	YES
Minimise energy losses be installing energy efficient equipment, notably motors.	In 2011 MICAM upgraded the thermal insulation of thermal oxidisers, heat exchangers, main boiler and the steam piping network.	YES
Use the most energy efficient dryer that is appropriate to the type of coatings in use	Surveys have been completed on the dryer.	YES
BAT – Preventive Measures for Specific Processes For all coating, cleaning and degreasing processes using solvents, in addition to the general measures in section 5.2, BAT is to do the following for all relevant processes.		
Minimisation of need for Coating/Cleaning		
Consider all of the techniques outlined in section 4.3.2.1 of this document in order to minimise coating required, and implement where appropriate.	Cleaning not applicable. Resin contents are minimised where possible but are subject to the customer specifications and requirements.	YES
Consider all of the techniques outlined in section 4.3.2.2 of this document in order to minimise cleaning/degreasing required, and implement where appropriate.	Completed	YES
Use of alternative coating processes		
Where appropriate to the product material, the functional requirements of the coating, and the scale of operation, use commercially available alternatives to conventional solvent based coatings as outlined in section 4.3.2.3.	Opportunities will be sought to use solvent less resin systems to manufacture reinforced plastics where appropriate to the finished product specification	YES
Use of alternative cleaning processes		
Where appropriate to the product material, the nature and quantity of contaminant(s) present, the degree of cleanliness required, subsequent processing and use requirements, and the scale of operation, use alternative cleaning processes to conventional solvent cleaning as outlined in section 4.3.2.4.	Product cleaning using solvents not applicable.	NA

Increased coating application efficiency		
From those techniques outlined in section 4.3.2.5 for increasing transfer efficiency, implement those technique(s) that are appropriate to the product, the coating material, and the scale of operation.	Techniques have been assessed and the most efficient for this system are in place.	YES
Train operators on proper equipment operation as outlined in section 4.3.2.5 of this document.	Training in place	YES
Increased cleaning efficiency		
Implement the appropriate degreasing/cleaning solution maintenance techniques outlined in section 4.3.2.6 for increasing cleaning efficiency	Cleaning / degreasing operations not applicable	NA
Containment		
Give regard to Draft Reference Document on BAT on emissions from storage (July 2003)	Completed	YES
Consider all of the techniques outlined in section 4.3.3 of this document, and where appropriate.	Completed	YES
Use enclosed containers for all solvent containing materials including waste solvent, and wastes contaminated with solvent.	Completed	YES
Have adequate solvent storage incorporating the techniques outlined in section 4.3.3, as appropriate	Completed	YES
Have over ground tanks and pipelines, where possible	Completed	YES
Have unique filling points for bulk materials and store large quantities separately	Completed	YES
Have high levels alarms on all fixed storage tanks	Not in place currently	NO
Back vent bulk storage tanks when filling where this is appropriate (see STS-BREF Section 20.2.2)	Not in place currently	NO
Storing solvents, waste solvents and waste cleaning materials in sealed containers	Completed	YES
Store small amounts of hazardous materials at the point of application and large quantities separately	Completed	YES
For all coating processes using solvents		
Carry out spray application in enclosed booths/areas with adequate ventilation, except where permission is given to operate in uncontained conditions.	Spray application not applicable. Resin Impregnation is carried out in enclosed area under controlled extraction rates	YES

For all cleaning or degreasing processes using solvents		
Carry out cleaning in enclosed equipment of equipment fitted with removable covers	Not applicable	NA
For all vapour degreasing processes		
Ensure covers fit below the rim ventilation slot and at the top of the freeboard zone	Not applicable	NA
Use a roller of slide design for covers	Not applicable	NA
Recovery and Recycling		
From those techniques outlined in section 4.3.4, implement those technique(s) that are relevant and feasible	Thermal oxidation in place on exhaust streams, no recovery or recycling of solvents	
BAT – Measures for treatment, abatement and disposal		
Treatment of Air Emissions		
Remove particulates from all coating processes using venture systems, dry filtration or wet filtration as appropriate (see section 4.3.5.1)	Dry filtration systems in place	YES
If necessary, use the most appropriate of the following techniques which are outlined in section 4.3.5.1 to treat VOCs: • Adsorption • Oxidation • Absorption • Condensation • Membrane filtration • Biological treatment	Not applicable	NA
Treatment of waste water		
Separate cooling water, storm water, bund water and any other effluents of different origin in order to permit appropriate treatment/recycling options	Not applicable	NA
Remove solids from waste water from wet separation spray booths through filtration	Not applicable	NA
To reduce solids or solvents from waste water use separation, flocculation, electro flocculation or vacuum distillation techniques (see STS-BREF Section 20.12.1 to 20.12.4)	Not applicable	NA
Treatment and disposal of waste		
Dispose all solvent containing wastes by appropriately licensed hazardous waste incineration with heat recovery	Completed	YES

Dispose process materials that are not contaminated with solvent or any other dangerous substances by appropriately licensed landfill or municipal waste incineration.	Completed	YES

Attachment J
Accident Prevention and Emergency Response
May 2012

ERP1 Emergency Response Procedure

1. INTRODUCTION:

Micam Limited is licensed under the Environmental Protection Act 1992 to carry on a printed circuit board (PCB) manufacturing operation. The location of the licensed activity is Sean Moylan Park, Mallow, Co. Cork and the licence register number is 247.

Condition 12.1of the Company's Integrated Pollution Control (IPC) Licence requires the licensee to *"insure that a documented Emergency Response Procedure is in place, which shall address any emergency situation that may originate on-site. This procedure shall include provision for minimising the effects of any emergency on the environment."*

A comprehensive safety statement has been compiled for the Micam Limited facility and this statement addresses potential risks and hazards which may arise at the site. The purpose of this document is to set out specific procedures to ensure that the environmental impact of any emergency is minimised.

2. GENERAL OVERVIEW OF THE ACTIVITY:

Location: Sean Moylan Park, Mallow, Co. Cork.

No. of Employeeson site: 32 (March 2007 figure)

Products manuafctured:

- Prepreg Materials – fabrics coated with resins and cured.
- Industrial laminates - fabric and glass reinforced laminates based on epoxy, melamine, phenolic and silicone resin systems.
- Limited Fire Hazard Material - electrical insulation and decorative laminates with enhanced fire properties
- Plastic Machined Components - CNC machined components based on Micam's reinforced laminates.
- Printed Circuit Boards

3. POTENTIAL EMERGENCIES THAT COULD ARISE ON-SITE:

- **Accidental Fire.**
- **Accidental Explosion.**
- **Accidental Chemical Spillage.**
- **Gas Leak.**

A significant emergency may involve a combination of fire, spillage and explosion hazards. While every emergency situation will need to be evaluated in its own right, the major environmental impacts that could arise from an emergency include the following:

- Air contamination
- Ground and/or groundwater contamination.
- Contamination of the local sewer network.

Fire & Chemical Safety:
Fire and chemical safety forms a critical part of the facility's safety statement.

- A sprinkler system is provided in the new laminate plant and old laminate plant.
- Impregnator ovens are fitted with flammable gas detectors which alarm and shutdown process in the event of high levels being detected.
- Flammable liquid storage in external bunded areas outside the buildings.
- A wide range of fire fighting facilities are provided on site including:
  (CO2, Foam & water extinguishers)
- Regular safety audits are undertaken and Hazard assessment carried out in every area.
- A fire drill procedure is undertaken on an regular basis.
- Chemical Spill control kits are provided in areas where chemicals are used.
- Chemicals are stored in bunded areas.
  A list of chemicals by storage area and their associated risks is shown in the appendix.

Small fires and chemicals spills can be handled by Micam personnel with the safety tools available on site. However most emergencies will require the assistance of appropriate emergency services.

4. MAIN PRIORITIES IN THE EVENT OF AN EMERGENCY.

4.1 PROTECT LIVES.

Evacuate those in immediate danger or entire factory if necessary.
If complete evacuation is necessary, Activate the fire alarm system and conduct head count at the Assembly Area when everyone is evacuated.
The Assembly Area is in the Car Park next to the site entrance gate.

4.2 MINIMISE RISK TO ENVIRONMENT & PROPERTY

In case of small chemical spillage, use spill kits to contain spill and prevent runoff to drains or ground. Try to locate source of spill and stop flow if possible.
The Locations of the spill control kits are shown in a map in the appendix.

Small fire can be tackled with appropriate fire extinguishers.
Larger fires will most likely require the Fire brigade.
After evacuation and head count close external doors if possible to cut down on the air flow into the building.

4.3 NOTIFY EMERGENCY SERVICES

- Emergency Fire, ambulance or Garda Phone 112 or 999
- Mallow Fire Dept. Phone (022) 21475
- Environmental Protection Agency. Phone (021) 4875540 Fax (021) 4875545
- Mallow Urban District Council. Phone (022) 21542 (Town Hall)
- Cork County Council. Phone (021) 4276891 or (022) 21123 (local)

Management Home phone no.s

- Pat Kelleher Phone 22839 Mob (087) 7645394
- Ciaran Culligan Phone 20663
- Neil Hogan Phone (021) 4503729

4.4 HAND OVER SITE CONTROL TO EMERGENCY SERVICES

On arrival of the emergency services, hand over control of the site to the services.
Senior management will liase with the appropriate authorities and provide them with all necessary information on the emergency and shall hand over this Emergency Response Procedure with appendices of site Maps, chemical storage areas, surface drains & sewer drains. With regard to spillage control, some bunding facilities are provided on site. During certain emergencies the on-site waste water treatment plant (WWTP) and bunded areas may provide temporary storage for spilled material or fire-water.

The Environmental Manager will assume responsibility for minimising the environmental effects of any emergency. The potential risks to ground, ground-water, sewer contamination and air pollution shall be evaluated. These potential risks shall be notified to the EPA and appropriate authorities as soon as possible after the emergency has arisen.

5. NOTIFICATION OF EMERGENCY TO EPA

As per condition 4 of Micam's IPC licence, The EPA must be notified by both Telephone and Fax as soon as practicable after the emergency has occurred if any of the following have or are likely to take place:

- Any release to atmosphere other than normal licensed emissions. (ie smoke, fumes, gas)
- Any malfunction or breakdown of monitoring/control equipment used for thermal oxidisers or waste water treatment plant.
- Any incident that has a potential for environmental contamination of surface water, ground water or posing a threat to air or land.
- Any emergency requiring an emergency response by the local authority.

As part of the notification, the time, date, details of occurrence and details of actions taken to minimise effect on environment and minimise waste generated shall be given.

6. EMERGENCY RESPONSE DOCUMENTATION:

This Emergency Response File shall be maintained in the Environmental Manager's office and a copy posted on the Notice board outside the Canteen.
The Emergency Response File shall consist of a series of site plans indicating the location of the following:

- Fire Hydrants, Sprinkler water tank & pump house and other water storage on site..
- Storage areas for all flammable materials, hazardous chemicals and bulk storage tanks.
- Evacuation routes including all fire extinguishers and Haz spill kit locations .
- Natural Gas shut-off valve.
- The surface water and foul water drainage system.
- The location of bunds which may be used for the temporary storage of fire water.
- The location of the Waste Water Treatment Plant.
- List of Hazardous Chemicals by location and their Risk R-Phrases

In the event of an emergency, the file shall be made available to the appropriate authorities including: the fire brigade, ambulance and/or environmental authority

Attachment L
Statutory Requirements
May 2012

(5) The Agency shall not grant a licence or revised licence for an activity—

(a) unless it is satisfied that—

(i) any emissions from the activity will not result in the contravention of any relevant air quality standard specified under section 50 of the Air Pollution Act 1987, and will comply with any relevant emission limit value specified under section 51 of the Air Pollution Act 1987,

Micam will adhere to the licence conditions applied as has been the case since the IPPC licence was obtained.

(ii) any emissions from the activity will comply with, or will not result in the contravention of, any relevant quality standard for waters, trade effluents and sewage effluents and standards in relation to treatment of such effluents prescribed under section 26 of the Local Government (Water Pollution) Act 1977,

This is not applicable to Micam.

(iii) any emissions from the activity or any premises, plant, methods, processes, operating procedures or other factors which affect such emissions will comply with, or will not result in the contravention of, any relevant standard including any standard for an environmental medium prescribed under regulations made under the European Communities Act 1972, or under any other enactment,

Micam will adhere to the licence conditions applied as has been the case since the IPPC licence was obtained.

(iv) any noise from the activity will comply with, or will not result in the contravention of, any regulations under section 106,

Micam will adhere to the licence conditions applied as has been the case since the IPPC licence was obtained.

(v) any emissions from the activity will not cause significant environmental pollution,

Micam will adhere to the licence conditions applied as has been the case since the IPPC licence was obtained.

(vi) the best available techniques will be used to prevent or eliminate or, where that is not practicable, generally to reduce an emission from the activity,

BAT is always considered on new purchases.

(vii) having regard to Part III of the Act of 1996, production of waste in the carrying on of the activity will be prevented or minimised or, where waste is produced, it will be recovered or, where that is not technically or economically possible, disposed of in a manner which will prevent or minimise any impact on the environment,

Micam are fully compliant in waste management procedures and practices on site.

(viii) energy will be used efficiently in the carrying on of the activity,

Energy is used efficiently on site.

(ix) necessary measures will be taken to prevent accidents in the carrying on of the activity and, where an accident occurs, to limit its consequences for the environment and, in so far as it does have such consequences, to remedy those consequences,

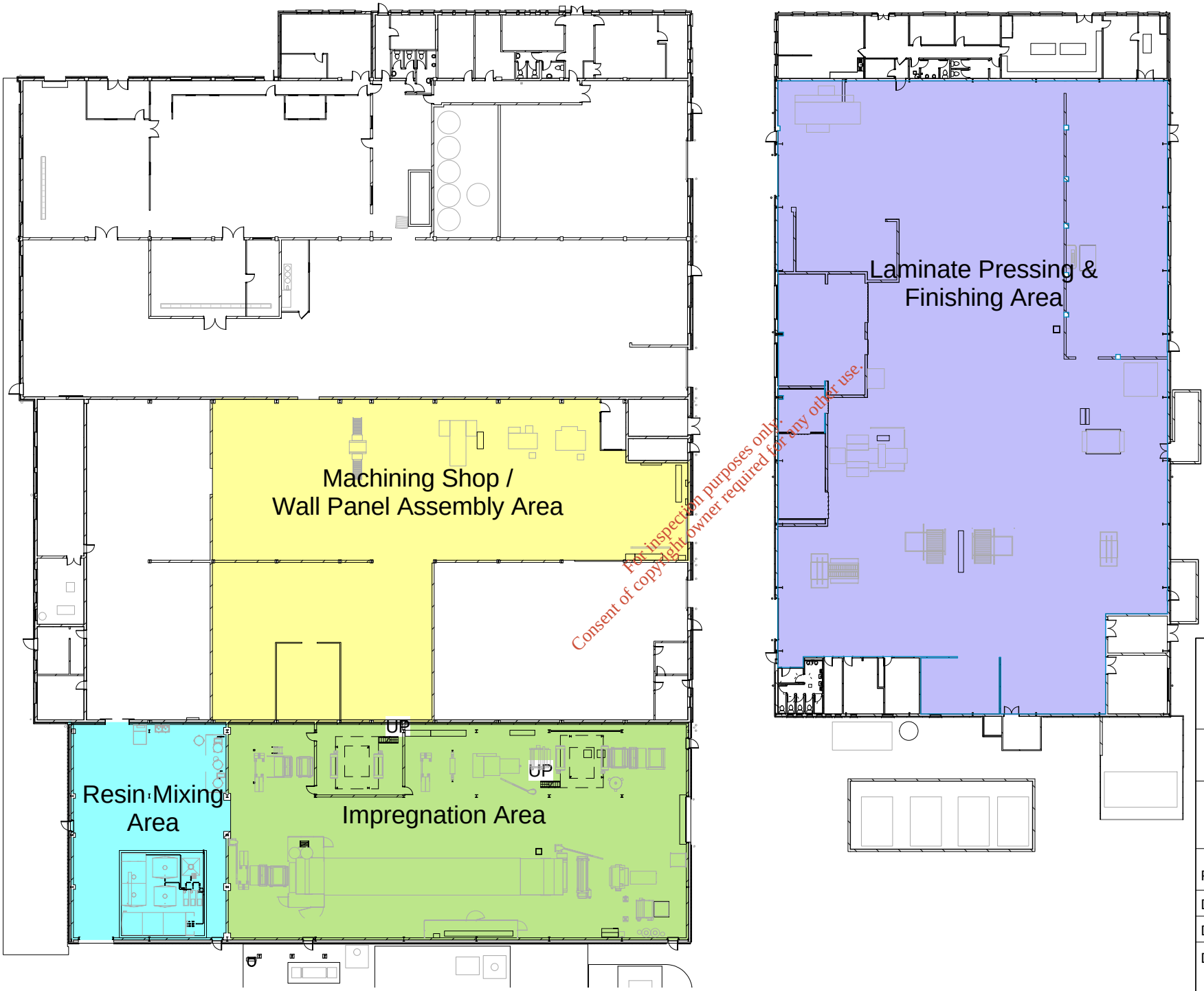
Training and procedures are in place to ensure there are minimal risks of accidents.

(x) necessary measures will be taken upon the permanent cessation of the activity (including such a cessation resulting from the abandonment of the activity) to avoid any risk of environmental pollution and return the site of the activity to a satisfactory state, and

A closure plan will be agreed with the Agency.

(xi) the applicant or licensee or transferee, as the case may be, is a fit and proper person to hold a licence,

The Agency has never had any reason under the current licence to not consider the holder fit and proper.



Revision		Date
A	FIRST ISSUE	19.05.2012

micam Ltd.

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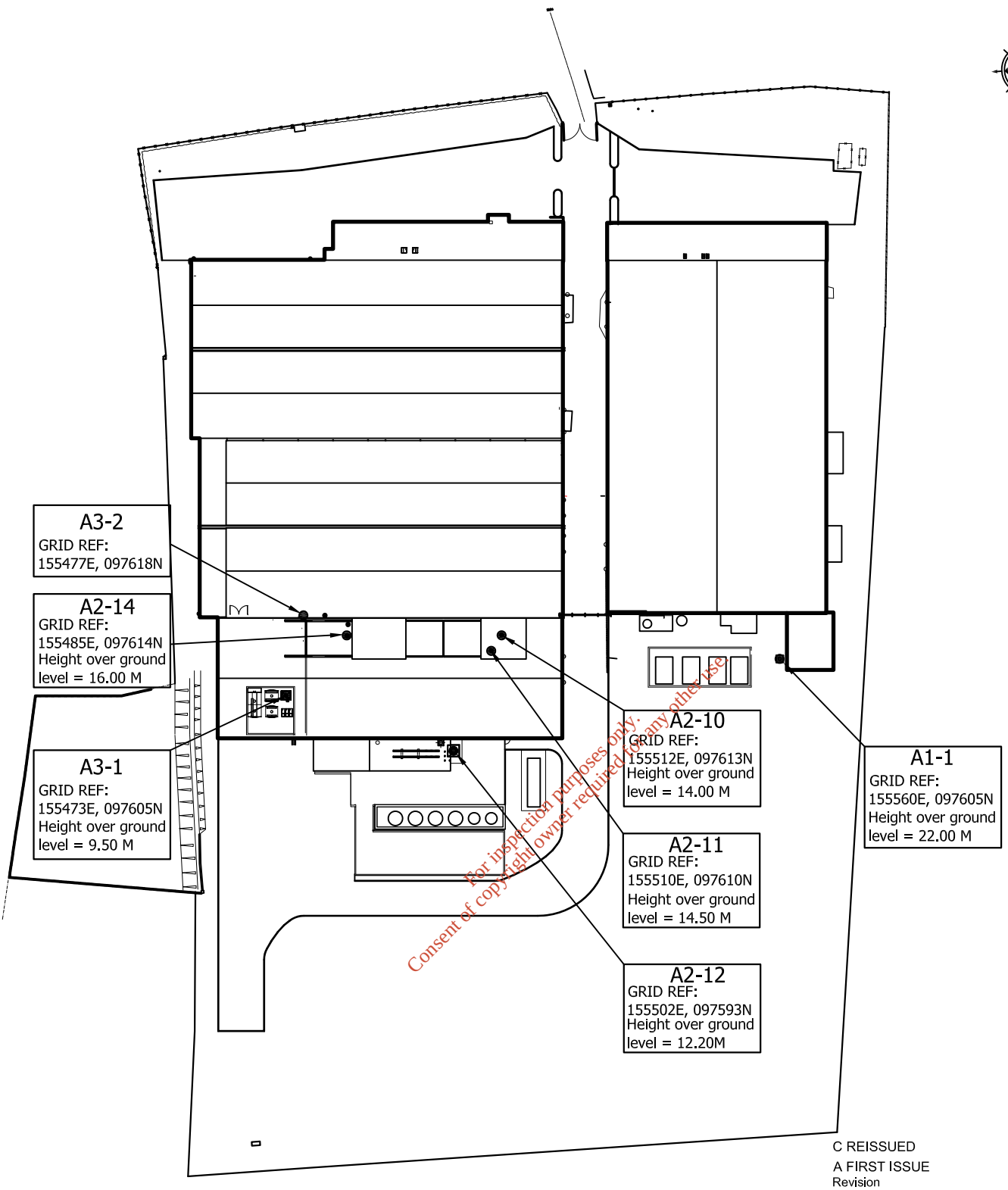
Index Plan

Project number	071
Date	
Drawn by	Ciaran O' Sullivan
Drawing Number	092-15
Rev	A
Scale	1 : 500



Notes:

1. Air Emission points indicated thus A2-10

Revision	Date
C REISSUED	22/MAY/2012
A FIRST ISSUE	MAY/2012

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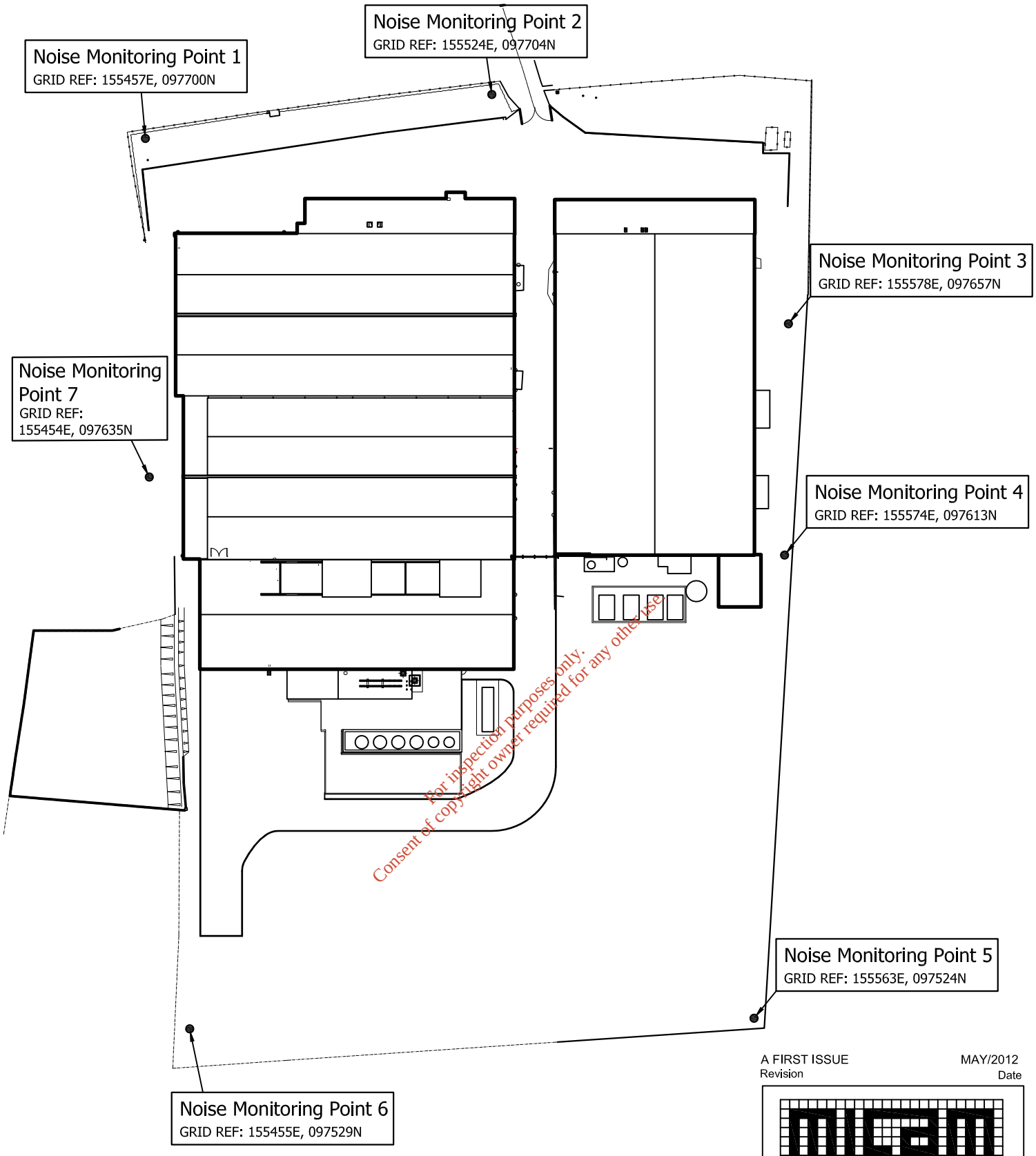
AIR EMISSION POINTS

Project number	093
Date	13.05.2012
Drawn by	Ciaran O' Sullivan
Drawing Number	093-11
Rev	C
Scale	1:1000



PRELIMINARY

A FIRST ISSUE	MAY/2012
Revision	Date

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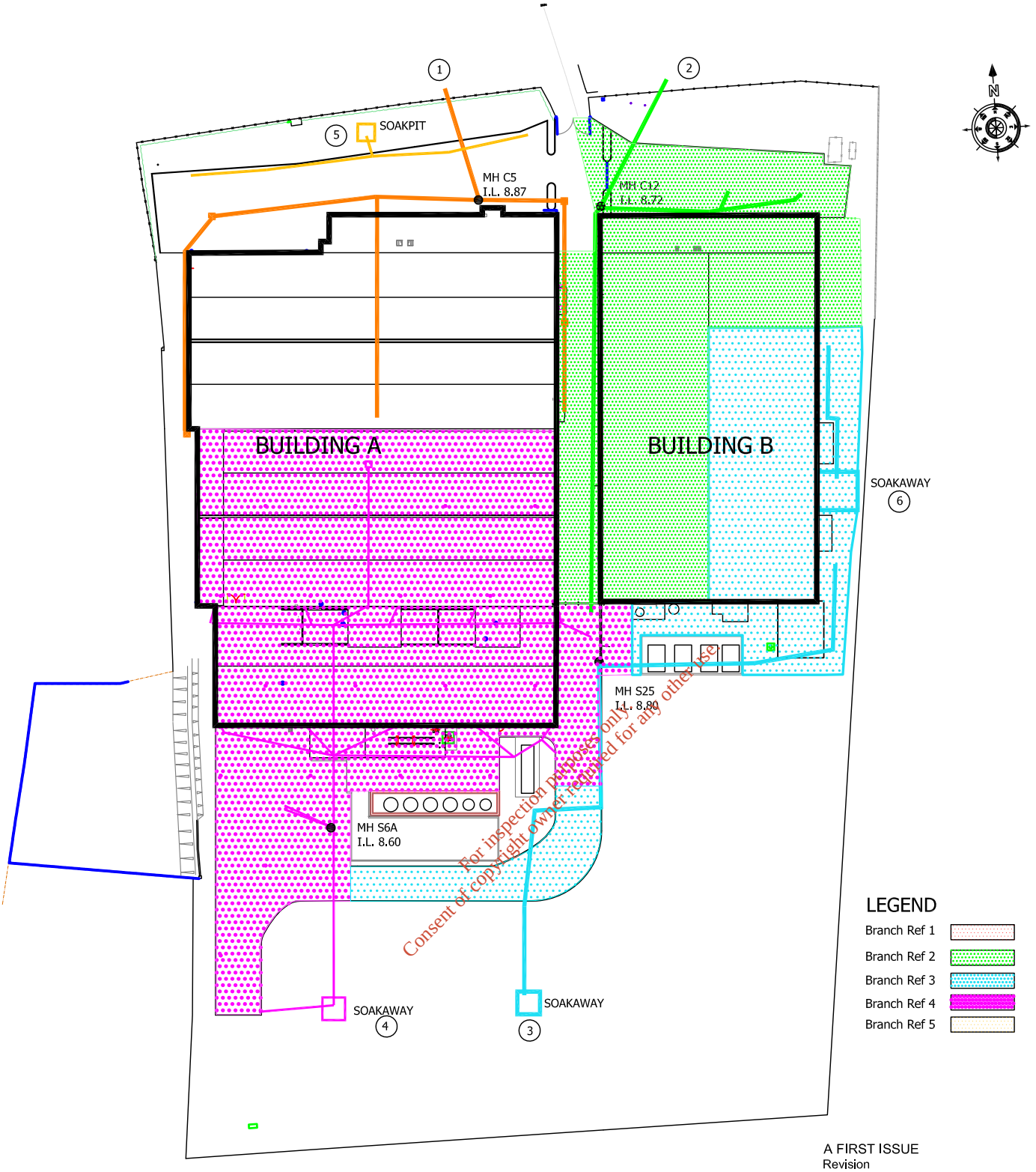
NOISE MONITORING POINTS

Project number	093
Date	13.05.2012
Drawn by	Ciaran O' Sullivan
Drawing Number	093-10
Rev	A
Scale	1:1000



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A FIRST ISSUE Revision	MAY/2012 Date

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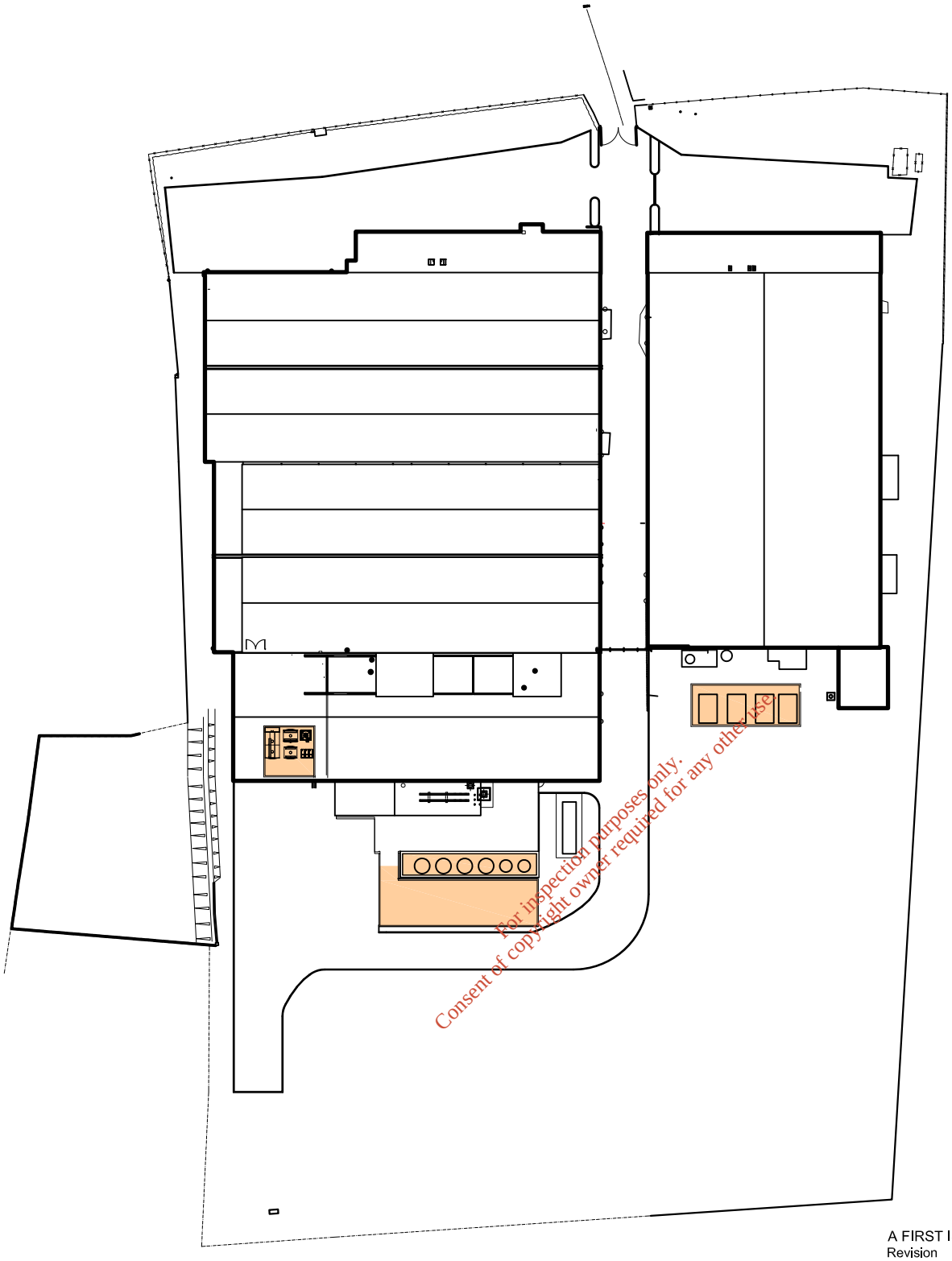
Surface Water Drainage System

Project number	093
Date	13.05.2012
Drawn by	Ciaran O' Sullivan
Drawing Number	093-14
Rev	A
Scale	1:1000



NOTES

1. BUNDED AREAS INDICATED THUS

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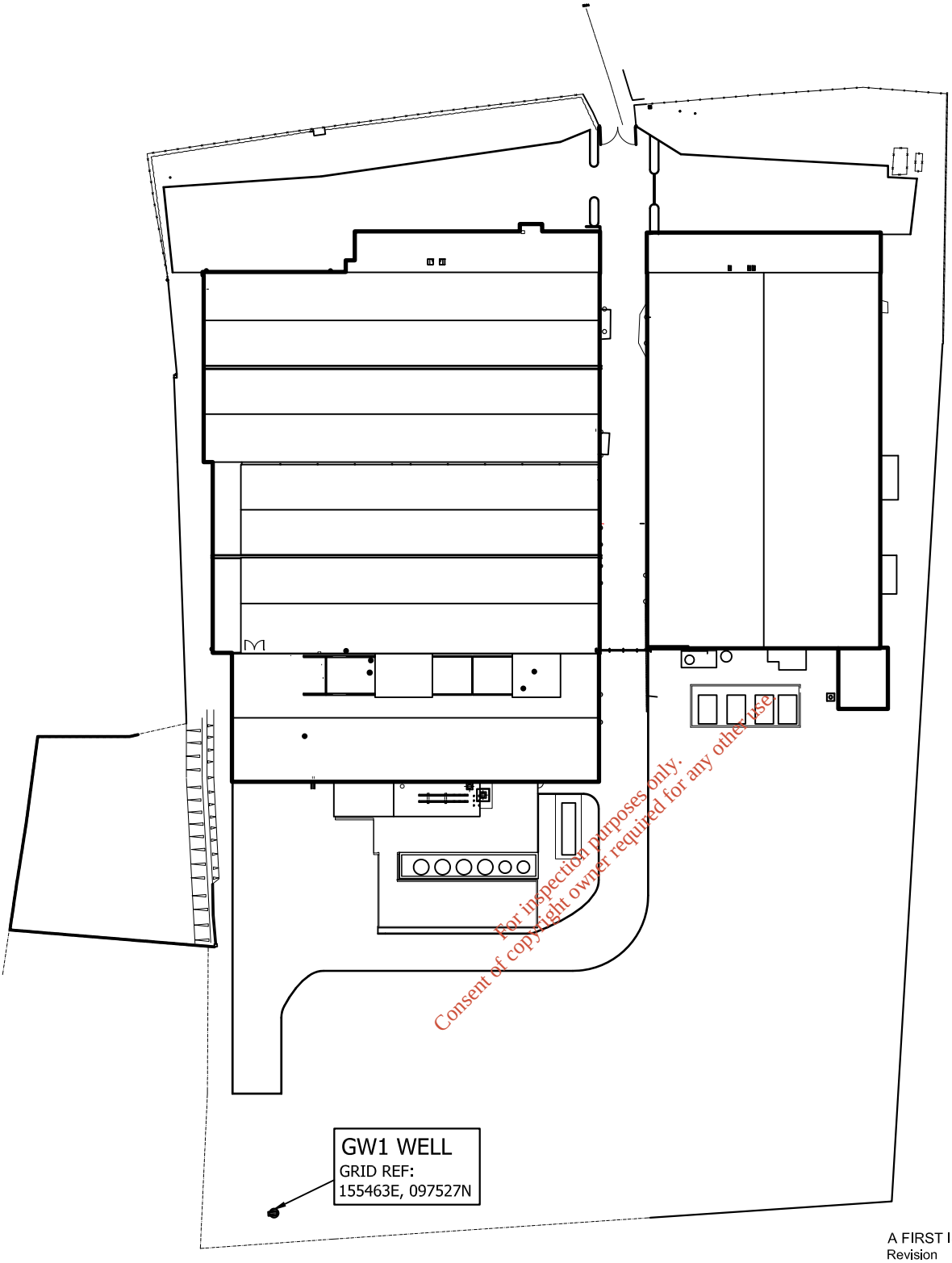
BUNDED CHEMICAL STORAGE AREAS

Project number	093
Date	13.05.2012
Drawn by	Ciaran O' Sullivan
Drawing Number	093-13
Rev	A
Scale	1:1000



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Ground Water Well

Project number	093
Date	13.05.2012
Drawn by	Ciaran O' Sullivan
Drawing Number	093-12
Rev	A
Scale	1:1000