Application for a Part B permit

Environmental Permitting (England and Wales) Regulations 2010

Introduction

When to use this form
If you are sending an application to a Local Authority under the Environmental Permitting (England and Wales) Regulations 2010 and the installation requires an air pollution control permit (known as "Part B" installations).

Before you fill in this form
Do please read relevant parts of the Defra general guidance manual. Chapter 4 is about making an application, Chapter 7 is about how permits are decided, and Chapter 12 gives the meaning of Best Available Techniques (BAT). Other chapters introduce the Regulations and give information about various issues.

You also need to read the relevant process guidance note to see what standards and requirements are likely to be expected of your installation.

Pre-application discussions
It is usually sensible to talk to one of our pollution control officers before you complete and submit the application. Contact [ ]

Which parts of the form to fill in
Please fill in as much of it as possible and enclose the appropriate fee. Then send it to:

Insert local authority address

Other documents you may need to submit
You will need to send us various other documents. The application form tells you which ones. It will be simplest for all concerned if you give a reference number for each document and record it on both this form and on the document itself. Please use any existing documents where you can and they are suitable.

Using continuation sheets
Feel free to use a continuation sheet, but you need to clearly identify where you have done so.

Copies - *not relevant for e-applications*
If you are submitting a paper application, please send the original and [ ] copies of the form and all other supporting material, for consultation purposes.

LAPPC application form: to be completed by the operator		
For Local Authority use		
Application reference	**Officer reference**	**Date received**

A The basics

A1 Name and address of the installation

Graham Engineering Ltd
Edward Street
Whitewalls Industrial Estate
Nelson, Lancashire

Postcode **BB9 8SY** Telephone **01282 695121**

A2 Details of any existing environmental permit or consent *(for waste operations, please include planning permission for the site, including established use certificates, a certificate of lawful existing use, or why the General Permitted Development Order)*

Reference no.	Issuing regulator	Type of permit
N/A		

A3 Operator details (*The 'operator' = the person who it is proposed will have control over the installation in accordance with the permit (if granted).)*

Name **Graham Engineering Ltd** Trading name, if different
Registered office address **Edward Street, Whitewalls Industrial Estate** **Nelson, Lancashire BB9 8SY** Principal office address, if different
Company registration number **1329239**

A4 Any holding company?

Is the operator a subsidiary of a holding company within the meaning of section 1159 of the Companies Act 2006? If "yes" please fill in details of the ultimate holding company.

No [x] Yes [ ]

Name **N/A** Trading name, if different
Registered office address Principal office address, if different
Company registration number

A5 Who can we contact about your application?

Name + position **Debbie Salmon – QHSE Manager**
Tel **01282 677557**
Email **dsalmon@graham-eng.co.uk**

B The installation

What activities are or will be carried on at the installation? Please include "directly associated activities" – this term is explained in Annex III in Part B of the general guidance manual

Main activities	Section in Schedule 1 to the EP Regulations
Surface Cleaning Process	Section 7

Directly-associated activities (including waste operations)	Schedule 1 references (if any)

B2 Why is the application being made?

☐ new installation

☒ change to existing installation means it now needs a permit

B3 Site maps

Please provide:-

- A location map showing with a red line round the boundary of the installation

  Doc reference **GEL001 – 23.03.16**

- A site plan or plans showing where all the relevant activities are on site, including storage areas, emission/discharge points, and any directly associated waste operations

  Doc reference **P8/2222A – 12.05.15**

C The details

C1 How will the installation operate?

Doc reference: **GEL C1** ✓

C2 Emissions, techniques and monitoring?

What pollutants (including odour) and how much are expected to be emitted into the atmosphere? Please say which stage of the process each emission will come from and also whether from a particular chimney, vent or other source (fugitive). Please include emissions during starting and shutting down the plant, and from possible breakdowns or accidents identified by a risk assessment. (*Using process flow diagrams may help to simplify this.*)

What techniques will be used to minimise each emission in line with BAT? What monitoring has been undertaken (give results) and what monitoring is proposed?

Doc Reference: **GEL C2** ✓

C3 Environmental management?

What environmental management procedures and policy will you deploy?

Doc Reference: **GEL C3** ✓

C4 Impact on the environment?

a) what are the potential significant local environmental effects (including nuisance) of the foreseeable emissions?

b) are there any sites of special scientific interest (SSSIs) or European protected sites nearer than any of the following distances to the proposed installation:

- 2km - where the installation includes Part B combustion, incineration (not cremation), iron and steel, or non-ferrous metal activities
- 1km - where the installation involves mineral or cement and lime activities
- ½ km - in all other cases?

No [x] Yes [ ]

c) if "yes", is the installation likely to have a significant effect on these sites and, if so, what are the implications for the purposes of the Conservation (Natural Habitats etc) Regulations 1994 (see appendix 2 of Annex XVII of the general guidance manual)

d) has an environmental impact assessment been carried out for the installation under planning legislation or for any other purpose. If so, please provide a copy

Doc Reference: **GEL C4 & Environmental Aspects Register DR001** ✓

D Anything else?

Please tell us anything else you would like us to take account of.

Doc Reference _____

E Application fee

You must enclose the relevant fee with your application. If your application is successful you will also have to pay an annual subsistence charge, so please say who you want invoices to be sent to.

Invoices for Annual Subsistence Charge to be sent to:

Debbie Salmon – QHSE Manager
Graham Engineering Ltd
Edward Street
Whitewalls Industrial Estate
Nelson, Lancashire
BB9 8SY

F Protection of information

G1 Any confidential or national security info in your application?

If there is any information in your application you think should be kept off the public register for confidentiality or national security reasons, please say what and why. General guidance manual chapter 8 advises on what may be excluded. *(Don't include any national security information in your application. Send it, plus the omitted information, to the Secretary of State or Welsh Ministers who will decide what, if anything, can be made public.)*

Doc Reference _____

G2 Please note: data protection

The information you give will be used by the Council to process your application. It will be placed on the relevant public register and used to monitor compliance with the permit conditions. We may also use and or disclose any of the information you give us in order to:

- consult with the public, public bodies and other organisations,
- carry out statistical analysis, research and development on environmental issues,
- provide public register information to enquirers,
- make sure you keep to the conditions of your permit and deal with any matters relating to your permit
- investigate possible breaches of environmental law and take any resulting action,
- prevent breaches of environmental law,
- offer you documents or services relating to environmental matters,
- respond to requests for information under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004 (if the Data Protection Act allows)
- assess customer service satisfaction and improve our service.

We may pass on the information to agents/representatives who we ask to do any of these things on our behalf.

G3 Please note: it is an offence to provide false etc information

It is an offence under regulation 38 of the EP Regulations, for the purpose of obtaining a permit (for yourself or anyone else), to:

- make a false statement which you know to be false or misleading in a material particular,
- recklessly make a statement which is false or misleading in a material particular
- intentionally to make a false entry in any record required to be kept under any environmental permit condition
- with intent to deceive, to forge or use a document issued or required for any purpose under any environmental permit condition.

If you make a false statement

- we may prosecute you, and
- if you are convicted, you are liable to a fine or imprisonment (or both).

H Declarations A and B for signing, please

These declarations should be signed by the person listed in answer to question A3. Where more than one person is identified as the operator, all should sign. Where a company or other body corporate is the operator, an authorised person should sign and provide evidence of authority from the board.

Declaration A: I/~~We~~ certify

EITHER- No offences have been committed in the previous five years which are relevant to my/our competence to operate this installation in accordance with the EP Regulations.

OR- The following offences have been committed in the previous five years which may be relevant to my/our competence to operating this installation in accordance with the regulations:

N/A

Signature_____ Name Debbie Salmon

Position QHSE Manager Date 02.10.17

Declaration B: I/~~We~~ certify that the information in this application is correct. I/~~We~~ apply for a permit in respect of the particulars described in this application (including the listed supporting documentation) I/~~we~~ have supplied. *(Please note that each individual operator must sign the declaration themselves, even if an agent is acting on their behalf.)*

Signature_____ Name Debbie Salmon

Position QHSE Manager Date 02.10.17

Signature_____ Name _____

Position_____ Date_____

GEL Application for a Part B permit

Environmental Permitting (England and Wales) Regulations 2010

C1. How will the Installation Operate – GEL C1

Graham Engineering Ltd manufacture and fabricate nuclear containment vessels and aerospace components. Processes include welding; fabrication; machining; pressing in stainless steel, carbon steel, and aluminium etc.

As part of our processes we need to manually clean our products using an organic solvent (Acetone) specified by our customer. The organic solvent (acetone) is applied by means of a wipe or rag to remove pressing oils and clean welds.

Our activity is therefore a Solvent Emission (SE) Activity under the Industrial Emissions Directive and we consume more than 2 tonnes of Acetone in any 12 month period. The activity for our installation is described as a **Manual Cleaning Process**.

In 2015 we purchased 61 off 205L Drums of Acetone. The weight of acetone per drum = 162.155Kg. The total weight of acetone purchased was 9.89 Tonnes.

We have reduced this significantly due to improved management, storage and use of acetone on site.

In 2016 we purchased 40 off 205L Drums of Acetone. The total weight of acetone purchased was **6.49** Tonnes (a reduction of 34% usage).

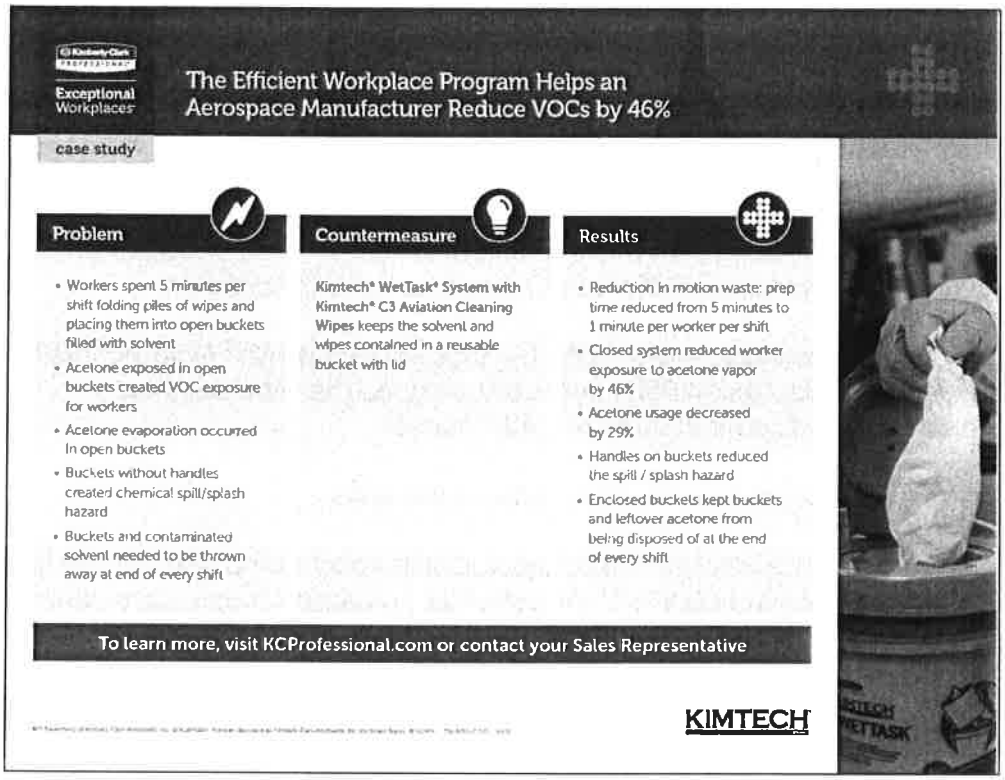
Our production has increased in 2017 by 30%,but to date (2nd October 2017) we have purchased 40 off 205L Drums of Acetone. The total weight of acetone purchased so far in 2017 is **6.49** Tonnes

All our VOC emissions to air will be fugitive emissions.

We operate as far as is reasonably practicable in accordance with DEFRA's Process Guidance Note 6/45 (11) the statutory guidance for surface cleaning revised: June 2014 and in accordance with our own Environmental Management System which is certified to ISO 14001.

C2. Emissions, Techniques & Monitoring – GEL C2

The emissions from the acetone are minimised as far as possible and controlled using Best Available Techniques (BAT) for the storage and handling of organic solvents as defined in Table 5.1 Summary of Control Techniques within PG6/45(11). GEL controls acetone emissions by utilising **enclosed storage vessels** (lidded plastic acetone tubs and drum storage). This helps to prevent spills; splashes and reduce volatile organic compound (VOC) emissions; reduce fire hazard and ensure efficient delivery of acetone to our products being cleaned. The Kimtech plastic tubs reduce loss of acetone by up to 40% from wastage and evaporation. In a small number of areas (3-in-1 cans) where wipes are impracticable because there is a requirement for slightly more acetone delivery to clean the product then 500ml 'swan-necked' low density polyethylene (LDPE) bottles are used which have a vapour venting valve that only releases vapour when any pressure builds up and prevent hazardous solvent drips.

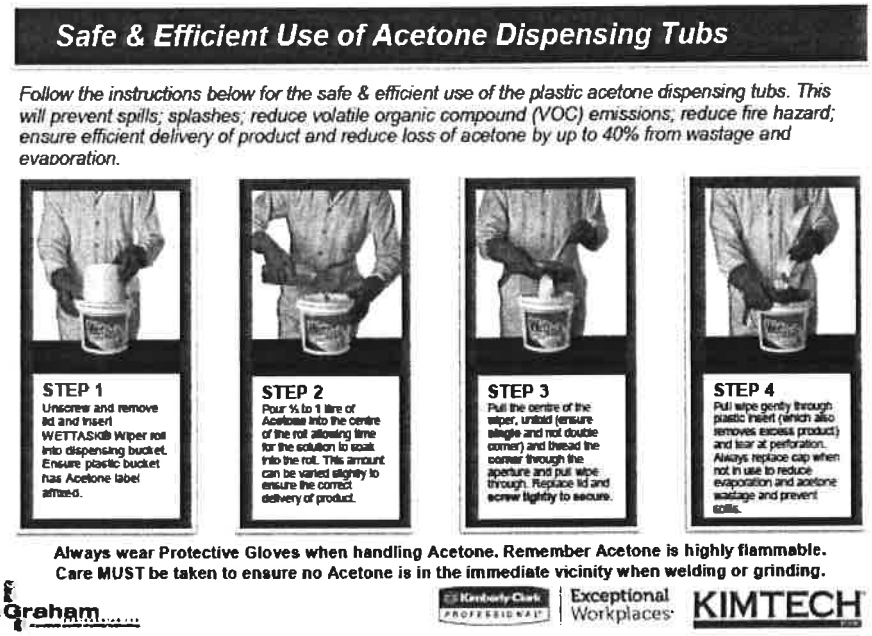


Training of Process Operators

We brief and train all our employees who use acetone on the health, safety and environmental hazards and issue them all with a COSHH Assessment for acetone and a 'Safe & Efficient Use of Acetone Dispensing Tubs' procedure. All employees sign up to this procedure.

Storage of Acetone
We only keep / store 2- 6 (max.) off 205L drums on site in a dedicated external drum store area on a covered bunded pallet which is capable of holding 110% capacity of the largest drum (205L). The acetone is then dispensed into plastic labelled buckets which have screw on lids. These dispensing buckets contain a WETTASK wiper roll and only ½ to 1 litre of acetone is poured into the buckets which then soaks up into the wiper roll. A flap is lifted on the screwed lid to reveal an aperture where a single wiper can be pulled through for use in the production areas. This also ensures that excess acetone is removed and returned into the secure tub to prevent over usage, evaporation and spills.

There is a lead time of 4 days from placement of order of acetone with our supplier to receipt at GEL. We normally order when consumable count list shows 2 drums in stock and we re-order 2 or 4 drums if holiday shut-down is approaching.



Due to the lidded acetone tubs there is reduced vapour and odour in the working areas inside our buildings. Any emissions are fugitive emissions but very little is emitted to the external atmosphere.

We have a complaint procedure in place (SP08 Complaint Procedure) and have had no complaints in the last 5 years from residents or anyone else relating to **nuisance emissions or odour** outside of the site boundary.

There is no increase in VOC emissions during **start-up or shutdown conditions** as this is a manual cleaning process. If products for our nuclear customers were found to be non-conforming due to marks etc. in the steel

containers and they required further cleaning then there may be an increase in the use of acetone for the batch of products in question. Due to the nature and high quality requirements of what we produce and our intense inspection process, and our batches of steel containers are small in number (e.g. 12-24); the % of product that fails inspection is very low and therefore the duration and frequency of increased cleaning with acetone still remains low.

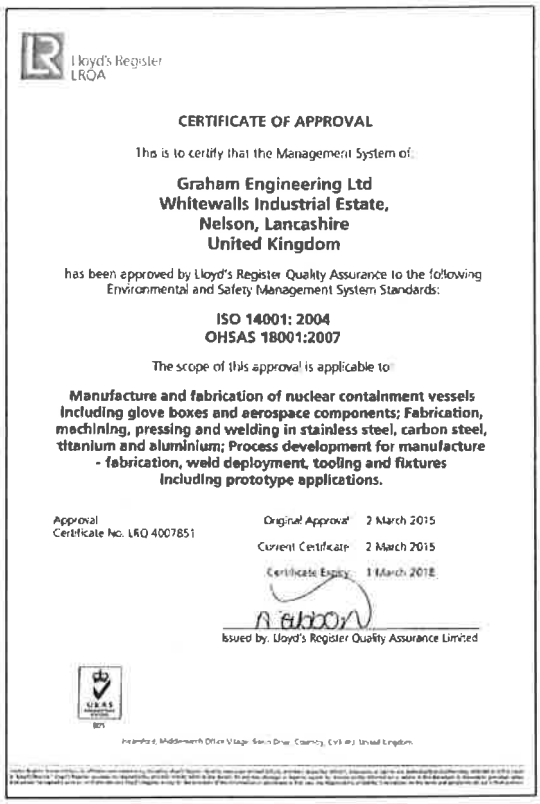
Under **abnormal conditions** such as in the event of a spill again the likelihood is low due to only storing low quantities (approximately 4 off 205L drums) of acetone on site at any one time which are securely lidded and stored in a bunded pallet. The acetone buckets used by employees within the factory are securely lidded and only store 1 litre of acetone each and so again the amount of potential product that could be spilled on any one occasion is minimised. We have an **Emergency Spillage Procedure** EP01 in place. We have emergency spill kits located on site in various areas where this is potential for spillage and we have a **trained emergency spill response team** on site. We also have an **Incident** Procedure (SP17) in place which details how we investigate incidents such as spillages or abnormal emissions; how these are minimised; mitigated and how the events are recorded and actions taken through our **Report-it** system. In the unlikely event of an incident where it is likely there could be an emission that could have an effect on the local community, Pendle Borough Council would be informed immediately.

We have conducted acetone vapour monitoring (for occupational health & safety purposes) and the vapours emitted were below the workplace exposure limit of 500ppm.

We **monitor** the quantities of acetone purchased. We do not produce waste acetone as all acetone liquid is fully used up within our manufacturing process. Our nominally empty acetone drums are collected by our supplier for re-use / recycling. We conduct regular documented monthly site **inspections** including a full section on hazardous substances and wastes. All records of inspections and monitoring are kept for a minimum of 2 years.

C3. Environmental Management – GEL C3

Graham Engineering Ltd. (GEL) has an Environmental Management System in place which is certified to the requirements of the International Standard for Environmental Management ISO 14001 by LRQA Certificate Number: LRQ 4007851.



Lloyd's Register LRQA

CERTIFICATE OF APPROVAL

This is to certify that the Management System of:

Graham Engineering Ltd
Whitewalls Industrial Estate,
Nelson, Lancashire
United Kingdom

has been approved by Lloyd's Register Quality Assurance to the following Environmental and Safety Management System Standards:

ISO 14001: 2004
OHSAS 18001:2007

The scope of this approval is applicable to:

Manufacture and fabrication of nuclear containment vessels including glove boxes and aerospace components; Fabrication, machining, pressing and welding in stainless steel, carbon steel, titanium and aluminium; Process development for manufacture - fabrication, weld deployment, tooling and fixtures including prototype applications.

Approval Certificate No. LRQ 4007851

Original Approval 2 March 2015
Current Certificate 2 March 2015
Certificate Expiry 1 March 2018

Issued by: Lloyd's Register Quality Assurance Limited

We have procedures in place for the safe storage, management, use and disposal of hazardous liquids on site.

We have a **Corporate Social Responsibility Policy** in place stating that we are committed to protecting the environment and preventing pollution and that we will ensure the safe, responsible and efficient management of substances and wastes to minimise our impact is use, handling, storage and disposal; and that we will ensure that adequate controls are in place so that our impacts will not adversely affect or cause nuisance or harm to our neighbours and the community.

We have the following relevant procedures in place:

1. SP01 Environmental Aspects Procedure
2. SP04 Objectives & Targets
3. SP11 Monitoring & Measurement of Performance
4. SP12 Non-Conformance & Corrective Action
5. SP14 Audits
6. SP15 Management Review
7. SP17 Incidents
8. OP05 COSHH Procedure
9. OP06 Waste Management Procedure
10. OP07 Management & Discharge of Effluent Procedure
11. OP09 General Housekeeping Procedure
12. OP10 Fire Precautions Procedure
13. EP01 Emergency Spillage Procedure
14. EP02 Emergency Fire Procedure
15. DR201 Health & Safety Policy Manual
16. Safe & Efficient Use of Acetone Dispensing Tubs

Graham

Corporate Social Responsibility Policy

"Graham Engineering is strongly committed to sustainable development and aims to provide a complete service of quality engineering to all our stakeholders, through a combination of innovation and operational excellence, whilst upholding the highest ethical, professional, health, safety, environmental & security standards. As a responsible & service provider we believe that the long term future of our business is best served by respecting & protecting the interests of all our stakeholders. We endeavour to take account of all the impacts our activities have on the environment, society and the economy."

Compliance

We will ensure compliance with all applicable health, safety and environmental legislation, industry best practice and satisfy stakeholder and other applicable requirements and compliance obligations and we will maintain a full awareness of future developments.

Continual Improvement and Customer Care

We are committed to:

- Continual improvement to enhance our quality, health, safety and environmental performance and management systems.
- Providing confidence in our products & services by understanding, achieving, satisfying and exceeding customer and stakeholder requirements, needs and expectations.
- Identifying opportunities to improve satisfaction by listening to our customers and taking all necessary actions where improvements can be made.

As part of our ongoing commitment to ISO9001, ISO14001 and OHSAS18001 standards, we set clearly defined objectives and targets; measure and review our performance of core processes and activities to help provide the best products & services available.

Risk Management

We are committed to:

- Protecting the environment, Preventing pollution, injury and ill health.
- Ensuring a safe and healthy environment for our employees, customers, visitors, contractors, general public and stakeholders at our site and from our products and services.

We will:

- Identify, assess and control all health, safety and environmental aspects and risks.
- Maintain a safe working environment.
- Ensure that our site, plant, machinery and equipment are well maintained and operated in a safe condition.
- Ensure the safe, responsible and efficient management of substances and wastes to minimise our impacts in use, handling, storage and disposal.
- Ensure our suppliers and contractors are selected where practicable on commitment to good ethical, quality, health, safety and environmental practices.

Environment & Carbon Management

We will:

- Ensure optimum use of natural resources and raw materials.
- Support the waste hierarchy in terms of reduction, re-use and recycling of production materials such as steel and packaging.
- Reduce carbon emissions where possible through the efficient usage of energy and fuel.

Community

We will:

- Ensure that adequate controls are in place so that our impacts will not adversely affect or cause nuisance or harm to our neighbours and the community.
- Engage, communicate and work closely with neighbours adjacent to our operations where necessary, to try to ensure they are kept up to date with our plans and performance.
- Endeavour to recruit employees from the local community and source local suppliers and contractors to support the local economy.

Culture

Our employees are our most important asset. We will:

- Encourage and empower them to be safe, healthy, professional, motivated and resourceful people.
- Provide our employees with all necessary resources and information.
- Proactively train and develop them in their current roles and future careers.
- Involve and consult with our employees in the development of policies and procedures.
- Encourage them to communicate issues, suggestions and opportunities for improvement.

Policy Communication and Review

This policy supports our business strategy and will be reviewed on an annual basis. It will be brought to the attention of all employees, suppliers and contractors and is freely available to interested parties from our website www.graham-eng.co.uk. The organisation, arrangements and safety rules that form part of this policy are detailed in the Health & Safety Policy Manual.

As Executive Chairman of Graham Engineering I take full responsibility for the implementation of this policy.

M Trousdale
April 2017

Opportunities for reducing VOC Emissions

As part of our environmental management system we set objectives and targets to endeavour to make continual improvements in our environmental performance. We have set the following target:

Environmental Significant Aspect: VOC Emissions				
REF:	**OBJECTIVE**	**REF:**	**TARGET**	**TIMESCALE**
Obj.13	To reduce & prevent air pollution	**Targ. 76**	To investigate, manage and help reduce our current Acetone Usage on site to reduce VOC emissions	December 2017

We have already reduced acetone usage from 2015-2016 by **34%** just by better management and control of the acetone buckets from our stores and by employee briefing and awareness training. We used 9.89T of acetone in 2015 and **6.49T** in 2016.

We have currently just had our Annual QSHE Management Review and are now investigating the feasibility of implementing alternative cleaning chemicals / technology in specific areas (3-in-1 cans) and where acetone isn't prescribed to be used by our main nuclear customer.

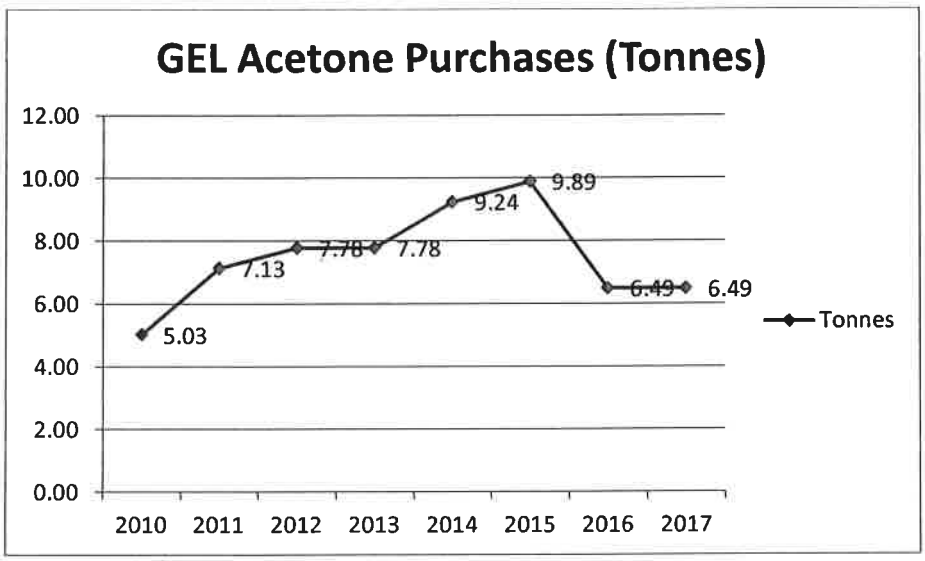
We have already started investigating the feasibility of using ultrasonic cleaning equipment which uses a smaller amount of an alternative solvent and we are also looking at laser cleaning to eliminate / reduce chemical usage.

VOC Control - Operational

Organic solvent losses can be identified and minimised by operational controls and good operational practice. GEL has a programme in place to monitor and record the consumption of organic solvent (acetone) to minimise the amount of excess organic solvent used.

GEL Acetone Usage

	Drums	Total Weight (Kg)	Tonnes
2010	31	5026.805	5.03
2011	44	7134.82	7.13
2012	48	7783.44	7.78
2013	48	7783.44	7.78
2014	57	9242.835	9.24
2015	61	9891.455	9.89
2016	40	6486.2	6.49
2017	40	6486.2	6.49



Acetone Purchased year-to-date 2017:

PO Receipts

Receipt Date From >= 01/01/2017 AND Receipt Date To <= 02/10/2017 AND Part Number = ACTN/0001

PO No	Supplier	Part No: Description	Supplier Advice Note	WO No	GRN No	Received Date	Batch No	Received Location	Received Qty	UOP	Unit Price	Total Value
14666/5	BRENNTAG UK LTD	ACTN/0001: 205 LTR Drum Acetone	7565950		51349/1	28/09/2017		Blue Stores Cage	2.00	drum(s)	286.20	572.40
14666/1	BRENNTAG UK LTD	ACTN/0001: 205 LTR Drum Acetone	7565652		51350/1	28/09/2017		Blue Stores Cage	4.00	drum(s)	286.20	1,144.80
14384/1	BRENNTAG UK LTD	ACTN/0001: 205 LTR Drum Acetone	7563638		50303/1	22/08/2017		Blue Stores Cage	4.00	drum(s)	365.70	1,462.80
14243/1	BRENNTAG UK LTD	ACTN/0001: 205 LTR Drum Acetone	7562057		49789/1	31/07/2017		Blue Stores Cage	4.00	drum(s)	365.70	1,462.80
13949/1	BRENNTAG UK LTD	ACTN/0001: 205 LTR Drum Acetone	7559824		48830/1	26/06/2017		Blue Stores Cage	4.00	drum(s)	365.70	1,462.80
13834/1	BRENNTAG UK LTD	ACTN/0001: 205 LTR Drum Acetone	7558569		48386/1	06/06/2017		Blue Stores Cage	4.00	drum(s)	365.70	1,462.80
13577/1	BRENNTAG UK LTD	ACTN/0001: 205 LTR Drum Acetone	7556803		47436/1	09/05/2017		Blue Stores Cage	4.00	drum(s)	365.70	1,462.80
13352/1	BRENNTAG UK LTD	ACTN/0001: 205 LTR Drum Acetone	7554822		46621/1	05/04/2017		Blue Stores Cage	4.00	drum(s)	365.70	1,462.80
13120/1	BRENNTAG UK LTD	ACTN/0001: 205 LTR Drum Acetone	7553461		46031/1	16/03/2017		Blue Stores Cage	2.00	drum(s)	230.55	461.10
12934/1	BRENNTAG UK LTD	ACTN/0001: 205 LTR Drum Acetone	7552512		45541/1	01/03/2017		Blue Stores Cage	2.00	drum(s)	230.55	461.10
12628/1	BRENNTAG UK LTD	ACTN/0001: 205 LTR Drum Acetone	7550369		44654/1	27/01/2017		Blue Stores Cage	4.00	drum(s)	214.65	858.60
12479/1	BRENNTAG UK LTD	ACTN/0001: 205 LTR Drum Acetone	7549703		44475/1	20/01/2017		Blue Stores Cage	2.00	drum(s)	214.65	429.30
										Total Value Received		12,704.10

---- End Of Report ----

Printed On 02/10/2017 13:00 *PO Receipts. Page 1*

VOC Control - Waste

All metal 205L drums of acetone are used fully to leave no residue in the nominally empty waste container. The lids are closed to minimise emissions and they are collected by the supplier. They are labelled so that all personnel who handle them are aware of the contents and hazardous properties.

Prior to disposal used wipes are placed in lidded metal waste bins on the shop floor identified with the words 'Acetone Rags'.

The inside acetone waste bins are emptied by our cleaning staff on a daily basis and placed in plastic bags which are tied and then disposed of in the outside yard FEL Waste Bins (self-closing lids).

Management Techniques

Emissions are controlled effectively through the management, supervision and training of our process operatives and the proper use of equipment. They are all trained on the safe and efficient use of acetone (which they sign up to for their training records). Any damaged acetone tub is returned to our stores and replaced with either a new empty tub, lid or both.

Training

All new employees are inducted on our ISO 14001 environmental management system, policies and procedures. This is documented on DR 027 GEL Induction Check List. They are briefed on relevant COSHH Assessments (such as acetone) and safe and efficient use of acetone. They undergo basic environmental awareness training, briefing on our emergency spill procedure, spill team personnel, location of emergency equipment (such as spill kits) & watch our spill response DVD.

C4. Impacts on Environment – GEL C4

The potential significant local environmental effects (including nuisance) of the foreseeable emissions from use of acetone at GEL for our manual cleaning operations have been documented in our environmental aspects register DR001 and include for the Use of Acetone:

1. Land / Ground Contamination from spillage / leaks
2. Potential water Pollution from spillage / leaks
3. Depletion of non-renewable resource
4. COSHH – Health Impacts
5. Air pollution, toxic emissions – due to fire from incorrect storage, poor housekeeping
6. Odour - Nuisance
7. VOC Emissions - Formation of ground level ozone which is hazardous to human health (implicated in asthma attacks) & Photochemical Smog

The VOC emissions are only deemed to be a **Significant Environmental Aspect** at the current time because we are not as yet fully compliant with legislation and because of the moderate interest from interested parties. The actual environmental impact score is **LOW** as a **2** which is deemed to have 'limited detriment' because:

- It is only a slight or temporal environmental impact
- The impact is confined within the boundary of the company
- The impact is naturally mitigated in the short term

Excerpt from GEL Environmental Aspects Register DR001

GEL IDENTIFICATION & EVALUATION OF ENVIRONMENTAL ASPECTS/IMPACTS 2015

AREA: (GEL6 – Main Factory Fabrication Shop – UO3, Slotted Cans, 3-in-1 Cans)

CONDITION	ENVIRONMENTAL ASPECT		ENVIRONMENTAL IMPACT	ASPECT REFERENCE	X-REF LEGISLATIVE REGISTER	FINANCIAL IMPLICATION GRADE	LEGISLATION	ENVIRONMENTAL IMPACT	INTERESTED PARTIES	QUANTITY	SEVERITY	PAST OCCURRENCE	POTENTIAL OCCURRENCE	LIKELIHOOD	TOTAL SCORE
	INPUT	OUTPUT													
NORMAL	Use of electricity (Robots, Welders, Guillotine, Presses, Lathes, lighting, Angle Grinders, LEV extraction, compressed air, Engineers, Vaqua Blaster)		Depletion of fossil fuels, production of greenhouse gases	EA1	ATM14	A	2	4	3	4	13	6	5	11	143
NORMAL	Use of Water (Vaqua blaster, 2x Degreasing Units, Urinals, Sinks, Cleaning Floor)		Depletion of natural resource	EA2	WAT14	D	2	1	2	1	6	3	3	6	36
NORMAL / ABNORMAL	Use of Metal Components / Parts (90% Stainless Steel, Mild Steel)		Depletion of resource	EA3		A	1	4	4	4	13	6	6	12	156
NORMAL / ABNORMAL	Use of Oils/Lubricants (Hydraulic oil, Rotheon TD40)		Depletion of non-renewable resource, COSHH Health Impacts	EA4	WAT13 HAZ2	B	2	3	2	3	10	4	4	8	80
NORMAL / ABNORMAL	Use of Machine Tools (taps, turning tools etc)		Depletion of resource	EA9		A	1	4	4	3	12	5	5	11	132
NORMAL		Noise from Machines & Processes (Presses)	Nuisance, Noise induced Hearing Loss	EA10	NUI3	B	2	2	3	3	10	4	3	7	70
EMERGENCY		Spillage or Leaks of liquids / coolant / Oils acetone etc)	Land / Ground contamination	EA11	HAZ2 NUI1	B	2	2	3	3	10	4	3	7	70
EMERGENCY		Spillage or Leaks of Vaqua Blasting effluent from IBCs)	Potential Water Pollution	EA11	WAT1 WAT3 HAZ2 NUI1	A	4	3	3	3	13	4	3	7	91

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GEL IDENTIFICATION & EVALUATION OF ENVIRONMENTAL ASPECTS/IMPACTS 2015

AREA: (GEL6 – Main Factory Fabrication Shop – U03, Slotted Cans, 3-In-1 Cans)

CONDITION	ENVIRONMENTAL ASPECT		ENVIRONMENTAL IMPACT	ASPECT REFERENCE	X-REF LEGISLATIVE REGISTER	FINANCIAL IMPLICATION GRADE	LEGISLATION	ENVIRONMENTAL IMPACT	INTERESTED PARTIES	QUANTITY	SEVERITY	PAST OCCURRENCE	POTENTIAL OCCURRENCE	LIKELIHOOD	TOTAL SCORE
	INPUT	OUTPUT													
NORMAL/ ABNORMAL	Use of Coolant		Depletion of non-renewable resource, COSHH Health Impacts	EA26	PACT3	B	4	3	3	3	13	4	4	8	104
NORMAL/ ABNORMAL		Discharge of Effluent to Foul Sewer (waste water from Vapo Blaster containing sodium nitrite, & from degreaser containing surfactants)	Water pollution	EA27	WAT3	B	4	2	3	3	12	4	4	8	96
NORMAL / ABNORMAL		Coolant Mist Emissions from machinery / process	Asthma, Effects on human Health	EA28	HAZ2	C	2	1	3	3	9	4	4	8	72
NORMAL / ABNORMAL	Use of pH Strips & Dip Slides for Coolant Management		Depletion of resource	EA29		C	2	2	2	2	8	4	4	8	64
NORMAL	Use of Gas (Heating)		Depletion of fossil fuels, production of greenhouse gases	EA30	S1BP3/ S1&P4 ATM34	A	2	4	3	3	12	5	4	9	108
NORMAL / ABNORMAL		Disposal of Hazardous / WEEE Wastes (Fluorescent tubes, electrical equipment, IT equipment etc.)	Decreased land availability. Treatment increases concentration	EA40	WAS17 WAS7 WAS8 WAS41	A	4	3	3	2	12	4	4	8	96
NORMAL		Re-Use of Packaging Waste (Plastic clips, Bubble wrap, plastic tote boxes)	(+ Ve) impact minimising depletion of resource	EA19	PACT1	A	2	1	3	3	9	4	5	9	81
NORMAL / ABNORMAL	Use of Acetone (Hazardous chemicals)		Depletion of non-renewable resource, COSHH Health Impacts	EA44	HAZ2 IPC2.14	B	4	3	2	4	13	5	5	10	130

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GEL IDENTIFICATION & EVALUATION OF ENVIRONMENTAL ASPECTS/IMPACTS 2015

AREA: (GEL6 – Main Factory Fabrication Shop – U03, Slotted Cans, 3-in-1 Cans)

CONDITION	ENVIRONMENTAL ASPECT		ENVIRONMENTAL IMPACT	ASPECT REFERENCE	X-REF LEGISLATIVE REGISTER	FINANCIAL IMPLICATION GRADE	LEGISLATION	ENVIRONMENTAL IMPACT	INTERESTED PARTIES	QUANTITY	SEVERITY	PAST OCCURRENCE	POTENTIAL OCCURRENCE	LIKELIHOOD	TOTAL SCORE
	INPUT	OUTPUT													
EMERGENCY		Fire from incorrect storage, handling, poor housekeeping, labelling of oils, chemicals, waste etc.	Air pollution – toxic emissions, fire damage	EA12	ATM4 SAF1	A	2	3	3	4	12	1	1	2	24
EMERGENCY		Fire due to plant /machinery overheating, electrical faults etc.	Air pollution – toxic emissions, fire damage	EA12	ATM4 SAF1	A	2	3	3	4	12	1	1	2	24
EMERGENCY		Firefighting run-off	Pollution of water courses	EA13	WAT2 WAT3	A	2	3	3	3	11	1	2	3	33
NORMAL / ABNORMAL		Odour from processes	Nuisance	EA14	NUI4	B	2	1	2	1	7	2	2	4	28
NORMAL / ABNORMAL		Heat Emissions from machinery / process / degreaser	Effects on human health / Burns	EA15		C	2	1	3	3	9	4	4	8	72
NORMAL / ABNORMAL		Vermin Mice	Effects on human health	EA17	NUI1	C	2	2	2	3	9	4	3	7	63
NORMAL / ABNORMAL	Use of Mouse & Rat Killer (Bait boxes)		Depletion of resource Harmful to human health	EA18	HAZ2	C	2	2	2	2	8	4	3	7	56
NORMAL / ABNORMAL		VOC Emissions (Acetone, Isopropanol)	Formation of ground level ozone, which is hazardous to human health (implicated in asthma attacks) & photochemical smog.	EA45	IPC1.3 HAZ19 HAZ3	A	4	2	4	3	13	5	4	9	117

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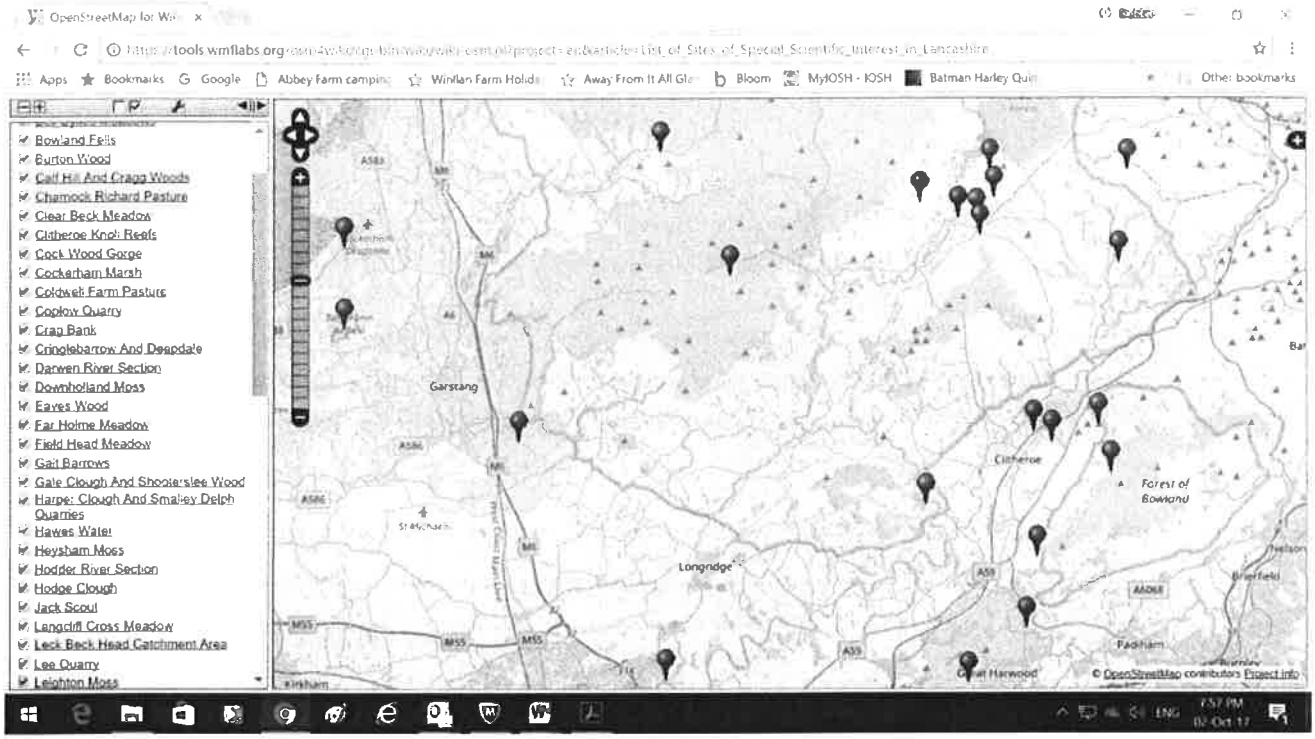
There are no Sites of Special Scientific interest (SSSI's) in the local vicinity (within 1/2 km) of Graham Engineering Ltd, Nelson BB9 8SY:

Map of SSSIs



Environmental Impact Assessment – Graham Engineering Ltd

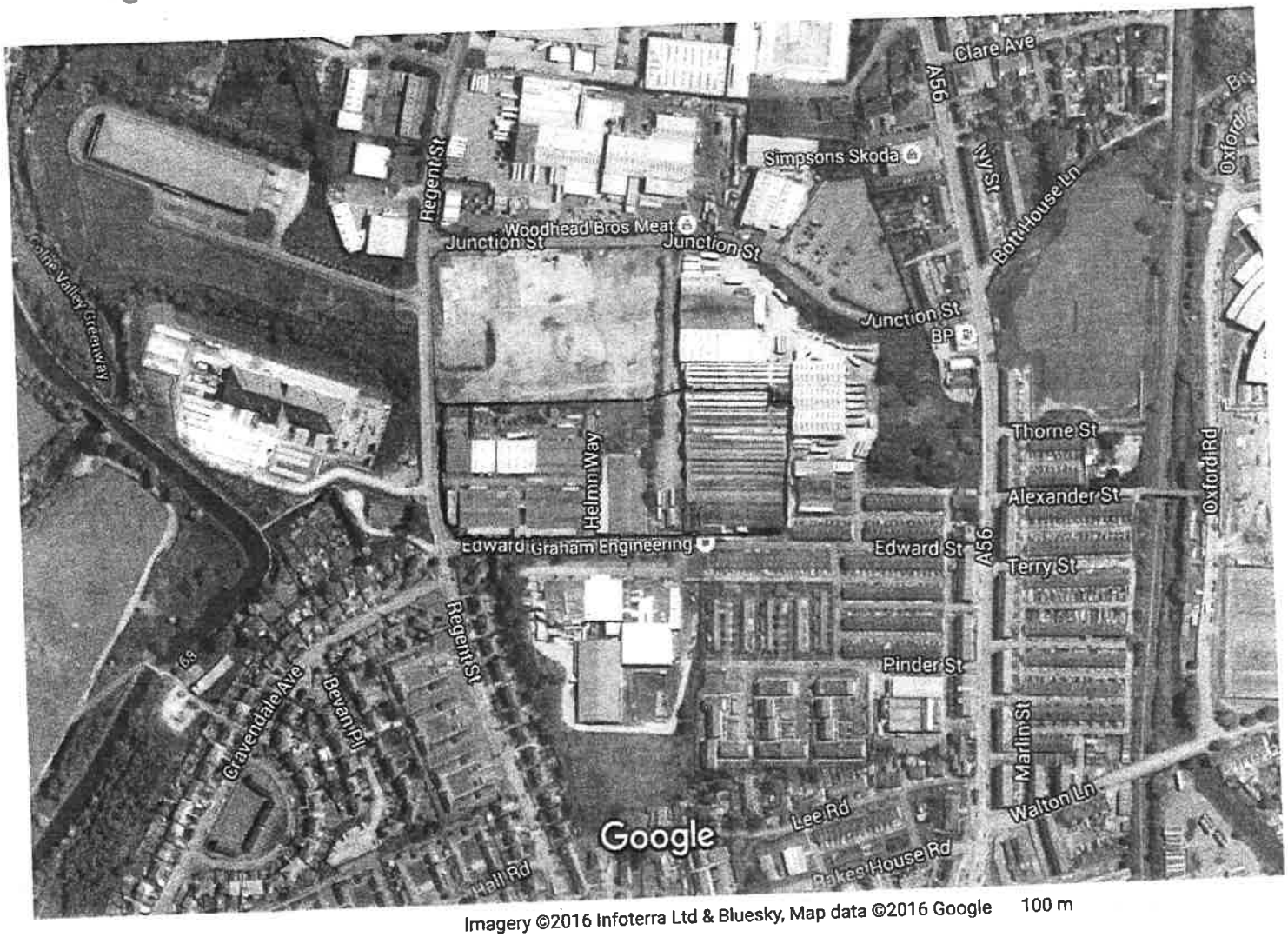
Manual Cleaning of Product (Nuclear Containers) using Acetone

Nature of Hazard	Receptors or 'Targets'	Risk / Consequence If hazard is not controlled	Existing Environmental Control Measures	Additional Environmental Controls Measures	Ref.	Risk Adequately Controlled
Aerial release of Odours **VOC Emissions**	**People** **People,** **Environment Local Air Quality** **Ecosystem**	**Nuisance of strong odours which may be harmful or offensive beyond the site boundary** **Health Effects, Asthma,** **Photochemical Smog Ozone Layer Depletion, Global Warming** **Retardation of Plant Growth & Crop Yields**	• ISO 14001 Environmental Management System • Site Inspections • Acetone received & stored in closed / sealed containers • Acetone used within enclosed factory building providing containment of aerial emissions • Use of enclosed storage vessels (lidded acetone tubs) within factory < 1 Litre per tub • Monitoring of quantities of acetone purchased / used • Training of Process Operatives • Complaint Procedure • Incident Procedure (Report-it) • Emergency Spillage Procedure • Waste Management Procedure • Fire Precautions Procedure • Safe & Efficient Use of Acetone Dispensing Tubs	**Objectives & Targets -** Investigate feasibility of implementing alternative cleaning chemicals, technology in certain areas at GEL (e.g. Laser Cleaning Cans)	**LRQA No: 4007851** **Management Programme 076** **OP08** **SP17** **EP01** **OP06 Section 4.3.7** **OP10 Section 4.18-4.23**	**Yes**

Additional Comments:
There have been no known odour problems or complaints historically at the site and no occupational health effects to employees from the use of acetone (Occupational Health Surveillance in place).

Conclusion:
The resultant risk of odour / VOC emissions due to manual cleaning with acetone is considered to be adequately controlled

Google Maps Graham Engineering Location Map - GEL001 23.03.16



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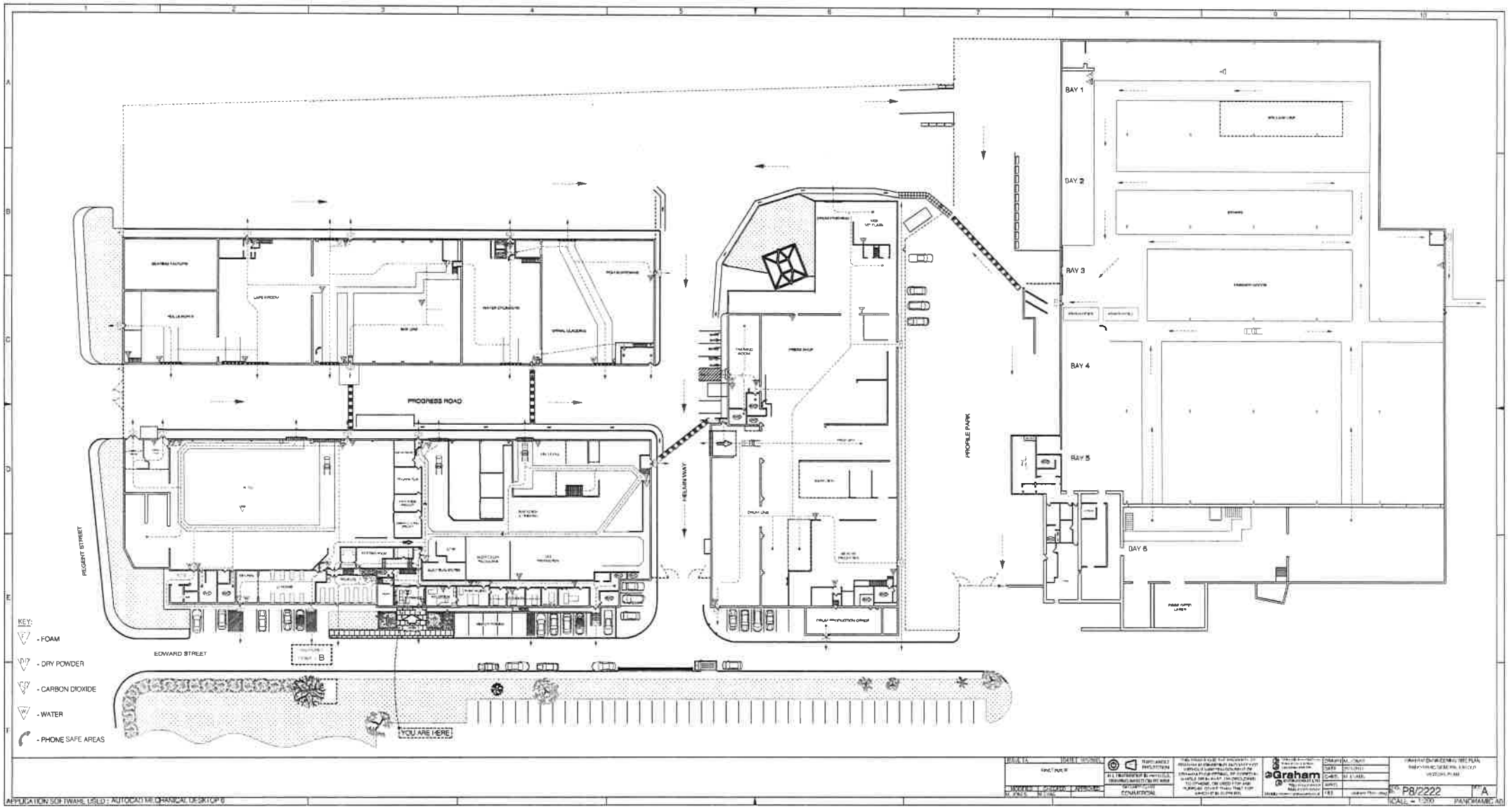

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APPLICATION SOFTWARE USED : AUTOCAD MECHANICAL DESKTOP 6

SCALE - 1:200

PANORAMIC A0