ENVIRONMENT AGENCY

Permit with introductory note

Pollution Prevention and Control (England & Wales) Regulations 2000

St. Asaph Infra Red Optics

Thales Optics Limited
Glascoed Road
St. Asaph
Denbighshire
LL170LL

Permit number

BX4666IZ

Contents

Introductory note

This introductory note does not form a part of the Permit

The following Permit is issued under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No.1973), as amended, ("the PPC Regulations") to operate an installation carrying out activities covered by the description in Section 4.2 A(1)(d) in Part 1 to Schedule 1 of the PPC Regulations, to the extent authorised by the Permit:

> Section 4.2 A(1)(d) - "Unless falling within another Section of this Schedule, a manufacturing activity, other than the application of a glaze or vitreous enamel, involving the use of the following elements or compound of those elements or the recovery of any compound of the following elements – selenium, thallium, arsenic, gallium where the activity may result in the release into the air of any of those elements or compounds or the release into water of any substance listed in paragraph 13 of Part 2 of this Schedule.
>
> Section 7 B - "Surface cleaning using substances or preparations which because of their content of volatile organic compounds classified as carcinogens, mutagens or toxic to reproduction under Directive 67/548/EEC as last amended by Commission Directive 98/98/EC are assigned or need to carry one or more of the risk phrases R45, R46, R49, R60 or R61, or halogenated VOCs which are assigned or need to carry the risk phase R40."
>
> Section 5.3 A(1)(c)(ii) "Disposal of non-hazardous waste in a facility with a capacity of more than 50 tonnes per day by physico-chemical treatment, which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12 in that Annex (for example, evaporation, drying, calcination, etc.)"

Aspects of the operation of the installation which are not regulated by conditions of the Permit are subject to the condition implied by Regulation 12(10) of the PPC Regulations, i.e. the Operator shall use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation.

Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

In some sections of the Permit conditions require the Operator to use Best Available Techniques (BAT), in each of the aspects of the management of the installation, to prevent and where that is not practicable to reduce emissions. The conditions do <u>not</u> explain what is BAT. In determining BAT, the Operator should pay particular attention to relevant sections of the IPPC Sector guidance, appropriate Horizontal guidance and other relevant guidance.

A non-technical description of the installation is given in the Application, but the main features of the installation are as follows:

Thales Optics Limited manufactures high technology optics, a relatively small proportion of the overall production uses materials capable of transmitting infra-red light to produce optics which are used in night vision equipment etc. The infra-red optics are manufactured from materials containing compounds of one or more of the following metals: selenium, gallium, arsenic and thallium. A number of activities included within the installation, namely the Glass Shop Spray Booth and the Durr Degreaser have been previously regulated by the local authority through an authorisation (DCC/04/EPA(A), dated 3/12/99). Outstanding activities, which do not form part of the installation, will continue to be regulated by the local authority through the LAPC authorisation which will be varied in due course.

The manufacture of infra-red (and other) optics takes place in the Glass Shop and involves a number of machining stages, typically involving shaping, edging, cutting and polishing. The majority of machining of infra-red lenses takes place in three areas, referred to by the Operator, as the "Ultra Precision Machining Centre", "Conventional Infra-Red Manufacture" and "Production of Infra-Red Windows". Limited machining, for example, cutting and polishing of infra-red lenses may also take place in other areas of the Glass Shop. Solvents or oil-water emulsions are used as cooling and/or cutting fluids in many of the machining stages. During the manufacturing process, infra-red optics may be painted (to provide a sacrificial protective layer) and cleaned (using solvent cleaners) before the final inspection.

The machining of infra-red optics during Ultra Precision Machining, Conventional Infra-Red Manufacture and the Production of Infra-Red Windows generates fine particulate material which is extracted from the workplace via local exhaust ventilation systems. The extraction systems reduce particulate emissions to air by means of in-line abatement systems, namely two-stage filters in the Ultra Precision Machining Centre and Conventional Infra-Red Manufacture, and an electrostatic precipitator in the Production of Infra-Red Windows. Other releases to air include volatile organic compounds from the extraction systems operating on the paint spray booth and degreaser.

The machining of infra-red optics during Ultra Precision Machining, Conventional Infra-Red Manufacture and the Production of Infra-Red Windows does not result in any releases to the foul sewer, however, process effluent is discharged from other machining and cleaning activities in the Glass Shop. Process effluent from the Glass Shop is discharged, after on-site settlement, to the foul sewer and receives further treatment off-site at the St. Asaph Wastewater Treatment Works. The discharge to the foul sewer is subject to a trade effluent consent from Welsh Water PLC who assess compliance through a monitoring programme. There is no direct discharge to groundwater. Surface water run-off from the site discharges into an unnamed tributary of the Afon Clywd via the Pengwern Drain and is subject to a consent (No. CM0038301) under the Water Resources Act 1991 (As Amended).

The manufacturing process generates a number of hazardous solid and liquid waste streams, including contaminated solvents, oil-water emulsions and those contaminated with toxic metals. The waste streams are segregated with some receiving off-site treatment to minimise their environmental impact through the use of separation and recovery techniques.

The Operator has a formal environmental management system in place, accredited to BS14001.

The site occupies a semi-rural setting being bordered by other industrial units, the B5381, and a farm. The closest designated habitats are the Coedydd ac Ogofau Elwy a Meirchion a Site of Special Scientific Interest and the Elwy Valley Woods a candidate Special Area of Conservation (Wales), both are approximately 2.2 km from the installation.

The releases from the process to air and sewer have been assessed and it is considered that there is no significant impact on potential receptors.

Note that the Permit requires the submission of certain information to the Agency (see Sections 4 and 5). In addition, the Agency has the power to seek further information at any time under regulation 28 to the PPC Regulations provided that it acts reasonably.

Other PPC Permits relating to this installation		
Permit holder	**Permit Number**	**Date of Issue**
Not Applicable		

Superseded Licences/Authorisations/Consents relating to this installation		
Holder	**Reference Number**	**Date of Issue**
Thales Optics Limited (Authorisation)	BC0693 as varied	6/07/99

Other activities may take place on the site of this installation which are not regulated under this Permit or any other PPC Permit referred to in the Table above.

Other existing Licences/Authorisations/Registrations relating to this site		
Holder	**Reference Number**	**Date of Issue**
Thales Optics Limited (Water Discharge Consent) originally issued to Pilkington PE Limited	CM0038301	21/03/86

Public Registers

Considerable information relating to Permits including the Application is available on public registers in accordance with the requirements of the PPC Regulations. Certain information may be withheld from public registers where it is commercially confidential or contrary to national security.

Variations to the Permit

This Permit may be varied in the future (by the Agency serving a Variation Notice on the Operator). If the Operator itself wants any of the Conditions of the Permit to be changed, it must submit a formal Application. The Status Log within the Introductory Note to any such Variation Notice will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Surrender of the Permit

Before this Permit can be wholly or partially surrendered, an Application to surrender the Permit has to be made by the Operator. For the application to be successful, the Operator must be able to demonstrate to the Agency that there is no pollution risk and that no further steps are required to return the site to a satisfactory state.

Transfer of the Permit or part of the Permit

Before the Permit can be wholly or partially transferred to another person, an Application to transfer the Permit has to be made jointly by the existing and proposed holders. A transfer will be allowed unless the Agency considers that the proposed holder will not be the person who will have control over the operation of the installation or will not comply with the conditions of the transferred Permit. If, however, the Permit authorises the carrying out of a specified waste management activity, the transfer will only be allowed if the proposed holder is also considered to be "a fit and proper person" as required by the PPC Regulations.

Talking to us

Please quote the Permit Number if you contact the Agency about this Permit.
To give a Notification under Condition 5.1.1, the Operator should use the Incident Hotline telephone number (0800 80 70 60) or any other number notified in writing to the Operator by the Agency for that purpose.

Status Log

Detail	Date	Response Date
Application BX4666IZ	Received 30/12/04	
Response to request for information via Schedule 4 Notice.	Request dated 17/05/05	Response received 28/05/05
Request to extend determination	Request dated 22/04/05	Request accepted 5/07/05
Request to extend determination	Request dated 27/07/05	Request accepted 2/08/05
Permit issued	4/08/05	

End of Introductory Note.

Permit
Pollution Prevention and Control Regulations 2000

ENVIRONMENT AGENCY

Permit

Permit number
BX4666IZ

The Environment Agency (the Agency) in exercise of its powers under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations (SI 2000 No 1973), hereby authorises **Thales Optics Limited** ("the Operator"),

whose Registered Office is
Thales Optics Limited
2 Dashwood Lang Road
The Bourne Business Park
Addlestone
Weybridge
Surrey
KT15 2NX

Company registration number 00876004

to operate an Installation at
St. Asaph Manufacturer of Infra Red Optics
Glascoed Road
St. Asaph
Denbighshire
LL17 0LL

to the extent authorised by and subject to the conditions of this Permit.

Signed	Date
Roger Green	4 August 2005

Roger Green, Team Leader – Strategic Permitting Group (Warrington)

Authorised to sign on behalf of the Agency

Conditions

1 General

1.1 Permitted Activities

1.1.1 The Operator is authorised to carry out the activities and the associated activities specified in Table 1.1.1.

Table 1.1.1

Activity listed in Schedule 1 of the PPC Regulations / Associated Activity	Description of specified activity	Limits of specified activity
Section 4.2 A(1)(d) – A manufacturing activity involving the use of the following elements or compounds of those elements – selenium, thallium, arsenic, gallium where the activity may result in the release into the air of any of those elements.	The machining of infra-red optics which contain one or more elements, or compounds of, selenium, thallium, arsenic, and gallium.	From the storage of raw materials to final product inspection. Including the primary machining of infra red optics in the Ultra Precision Machining Centre, Conventional Infra-Red Facility or Infra-Red Window Facility), machining in the Glass Shop (polishing, cutting and edging), application and removal of protective coatings and the cleaning of optics with solvents and alkaline cleaners.
Section 5.3 A(1)(c)(ii) – Disposal, by physico-chemical treatment, of non-hazardous waste in a facility with a capacity of more than 50 tonnes per day.	Effluent treatment	The primary settlement of process effluent from the Glass Shop prior to discharge to the public sewer.
Section 7 B: Surface cleaning with solvents.	Surface cleaning of infra-red optics.	Surface cleaning of optics and / or the removal of protective coatings in a degreaser.
Unlisted Directly Associated activity	Particulate Abatement	Extraction and abatement: (i) Particle filtration systems in the "Ultra Precision Machining Centre" and "Conventional Infra-Red Facility". (ii) An electrostatic precipitator in the "Infra-Red Window Facility". The cleaning of particulate containment / abatement systems.
Unlisted Directly Associated activity	Raw material handling and storage.	The storage and handling of raw materials
Unlisted Directly Associated activity	Waste handling and storage	The storage and handling of solid and liquid wastes.

1.2 Site

1.2.1 The activities authorised under condition 1.1.1 shall not extend beyond the Site, being the land shown edged in red on the Site Plan at Schedule 5 to this Permit.

1.3 Overarching Management Condition

1.3.1 Without prejudice to the other conditions of this Permit, the Operator shall implement and maintain a management system, organisational structure and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit.

1.4 Improvement Programme

1.4.1 The Operator shall complete the improvements specified in Table 1.4.1 by the date specified in that table, and shall send written notification of the date of completion of each requirement to the Agency within 14 days of the completion of each such requirement.

Table 1.4.1: Improvement programme

Reference	Requirement	Date
1	The Operator shall submit a written energy efficiency plan to the Agency, the scope of the plan shall have regard to section 2.7.2 of Agency Technical Guidance Note IPPC S4.03 and include a BAT assessment for the techniques considered together with a timetable for the implementation of the proposed improvements, where appropriate.	31 July 2006
2	The Operator shall undertake a review of the measures in place to control noise from the installation having regard to section 2.9 of Agency Technical Guidance Note IPPC S4.03 The outcome of the review shall be reported in writing to the Agency and shall include details of the existing measures and a timetable for the implementation of any improvements identified.	31 July 2006
3	The Operator shall submit in writing to the Agency proposals to comply with the requirements of the Solvent Emissions (England and Wales) Regulations 2004. The proposals shall address the SED requirements to: • ensure compliance with an emission limit value (of 20 mgm^{-3}) for Dichloromethane in the shortest possible time; and • control emissions under contained conditions as far as technically feasible to safeguard public health and the environment.	31 July 2006
4	The Operator shall carry out an assessment of the quantities of water consumed in rinsing and lubrication purposes in the Glass Shop and identify opportunities to minimise consumption through recycling, re-use and management techniques. The Operator shall submit in writing to the Agency a summary of the assessment, including a timetable for the implementation of the improvements identified.	31 July 2006

Table 1.4.1: Improvement programme

Reference	Requirement	Date
5	The Operator shall forward to the Agency a report, having regard to section 2.2.5 of the Agency Technical Guidance Note IPPC S4.03, detailing the containment measures, testing procedures and leak detection systems to prevent fugitive emissions from the following areas: • Raw Material storage area ("oil compound"); • Waste Oil storage area; and • Waste Oil-Water emulsion tank. The report shall include details of the existing measures together with a timetable for the implementation of the improvements identified.	31 March 2006
6	The Operator shall undertake a review of "fail-safe" techniques capable of detecting and preventing abnormal operation of the electrostatic precipitator associated with emission point A5, which may otherwise lead to increased emissions from the process. The outcome of the review shall be reported in writing to the Agency and shall include details of the existing measures and a timetable for the implementation of any improvements identified.	31 January 2006
7	The Operator shall undertake a study to identify techniques capable of minimising the carryover of suspended solids from the "three-weir" effluent treatment system to the sewer. The outcome of the review, which shall be submitted in writing to the Agency, shall include the following information: • Details of the monitoring programme; • a summary of the measures in place to ensure that emissions to the sewer are minimised; and • a timetable for the implementation of any improvements identified.	31 March 2006
8	The Operator shall implement measures to permit water consumption to be monitored and recorded at significant usage points within the installation. A summary of the measures shall be submitted in writing to the Agency.	30 April 2006

1.4.2 Where the Operator fails to comply with any requirement by the date specified in Table 1.4.1 the Operator shall send written notification of such failure to the Agency within 14 days of such date.

1.5 Minor Operational Changes

1.5.1 The Operator shall seek the Agency's written agreement to any minor operational changes under condition 2.1.1 of this Permit by sending to the Agency: written notice of the details of the proposed change including an assessment of its possible effects (including waste production) on risks to the environment from the Permitted Installation; any relevant supporting assessments and drawings; and the proposed implementation date.

1.5.2 Any such change shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation in accordance with that change, and relevant provisions in the Application shall be deemed to be amended.

1.5.3 When the qualification "unless otherwise agreed in writing" is used elsewhere in this Permit, the Operator shall seek such agreement by sending to the Agency written notice of the details of the proposed method(s) or techniques.

1.5.4 Any such method(s) or techniques shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation using that method or technique, and relevant provisions in the Application (and the Site Protection and Monitoring Programme, as the case may be) shall be deemed to be amended.

1.6 Pre-Operational Conditions

1.6.1 There are no pre-operational conditions

1.7 Off-site Conditions

1.7.1 There are no off-site conditions

2 Operating conditions

2.1 In-Process Controls

2.1.1 The Permitted Installation shall, subject to the conditions of this Permit, be operated using the techniques and in the manner described in the documentation specified in Table 2.1.1, or as otherwise agreed in writing by the Agency in accordance with conditions 1.5.1 and 1.5.2 of this Permit.

Table 2.1.1: Operating techniques

Description	Parts	Date Received
Application	The information provided in Document Reference IPPC B2.2 and B2.3 located in Section 5 of the Application (excluding sections B2.3.1.2 and B2.3.1.3.).	30/12/04
Schedule 4 Notice Response	Question 5	28/05/05

2.1.2 The Permitted Installation shall, subject to the other conditions of this Permit, be operated using the techniques and in the manner described in the Site Protection and Monitoring Programme submitted under condition 4.1.7 of this Permit (as amended from time to time under condition 4.1.7), or as otherwise agreed in writing by the Agency.

2.2 Emissions

2.2.1 Emissions to Air, (including heat, but excluding Odour, Noise or Vibration) from Specified Points

2.2.1.1 This Part 2.2.1 of this Permit shall not apply to releases of odour, noise or vibration.

2.2.1.2 Emissions to air from the emission points in Table 2.2.1 shall only arise from the source(s) specified in that Table.

Table 2.2.1 : Emission points to air

Emission point reference or description	Source	Location of emission point (Note 1)
A2	Ultra Precision Machining Facility Exhaust	
A3	Glass Shop Paint Booth Exhaust	Referred to as "Glass Shop Paint Spray Booth"
A5	Infra-Red Windows Facility Exhaust	
A7	Conventional Infra Red Facility Exhaust	
A9	Durr Degreaser Exhaust	

Note 1: Refer to Drawing No. 675/41/022 in the Schedule 4 Response, received 28/05/05.

2.2.1.3 The limits for emissions to air for the parameter(s) and emission point(s) set out in Table 2.2.2 shall not be exceeded.

Table 2.2.2 : Emission limits to air and monitoring

Emission point reference	Parameter	Limit (including Reference Period)[2]	Monitoring frequency	Monitoring method
A2	Particulate Matter	1 mgm^{-3} (minimum 0.5 hour period)	Annual	BS EN 13284-1:2002
A5	Particulate Matter	1 mgm^{-3} (minimum 0.5 hour period)	Annual	BS EN 13284-1:2002
A7	Particulate Matter	1 mgm^{-3} (minimum 0.5 hour period)	Annual	BS EN 13284-1:2002
A9	Dichloromethane	20 mgm^{-3} (minimum 0.5 hour period) Note 3	Annual	BS EN 13649

Note 2: See Section 6 for reference conditions.

Note 3: The emission limit value of 20 mgm^{-3} shall come into effect upon confirmation in writing by the Agency that the actions identified in response to Improvement Condition 3 have been completed and in any case no later than 31/10/07.

2.2.1.4 No condition applies.

2.2.2 Emissions to water (other than groundwater), including heat, from specified points

2.2.2.1 This Part 2.2.2 of this Permit shall not apply to releases of odour, noise or vibration or to releases to groundwater.

Emissions to water (other than sewer)

2.2.2.2 Conditions 2.2.2.3 - 2.2.2.6 shall not apply to emissions to sewer.

2.2.2.3 No emission from the Permitted Installation shall be made to water.

2.2.2.4 No condition applies.

2.2.2.5 No condition applies.

2.2.2.6 No condition applies.

Emissions to sewer

2.2.2.7 Emissions to sewer from the specified emission points in Table 2.2.7 shall only arise from the sources specified in that Table. There are no specific controls imposed on emissions to sewer in this Part of the Permit.

Table 2.2.7 Emission points to sewer

Emission point reference or description	Source	Sewer
S2 – identified as "X" on the plan appended to Consent (W130) in Schedule 4 Response, received 28/05/05	Settled process effluent from machining and rinsing activities in the Glass Shop. (The sample monitoring point, S1 is identified on the plan in Appendix 14 of the Application.)	Cwttir Lane rising main, Welsh Water PLC.

2.2.2.8 No condition applies.

2.2.2.9 No condition applies.

2.2.2.10 No condition applies.

2.2.3 Emissions to groundwater

2.2.3.1 No emission from the Permitted Installation shall give rise to the introduction into groundwater of any substance in List I (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).

2.2.3.2 No emission from within the Permitted Installation shall give rise to the introduction into groundwater of any substance in List II (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)) so as to cause pollution (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).

2.2.3.3 For substances other than those in List I or II (as defined in the Groundwater Regulations 1998 (SI 1998 No.2746)), the Operator shall use BAT to prevent or where that is not practicable to reduce emissions to groundwater from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application.

2.2.4 Fugitive emissions of substances to air

2.2.4.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to air from the Permitted Installation in particular from:

- storage areas
- buildings
- pipes, valves and other transfer systems
- open surfaces

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.5 Fugitive emissions of substances to water and sewer

2.2.5.1 Subject to condition 2.2.5.2 below, the Operator shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to water (other than Groundwater) and sewer from the Permitted Installation in particular from:

- all structures under or over ground

- surfacing
- bunding
- storage areas

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.5.2 There shall be no release to water that would cause a breach of an EQS established by the UK Government to implement the Dangerous Substances Directive 76/464/EEC.

2.2.6 Odour

2.2.6.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce odorous emissions from the Permitted Installation, in particular by:

- limiting the use of odorous materials
- restricting odorous activities
- controlling the storage conditions of odorous materials
- controlling processing parameters to minimise the generation of odour
- optimising the performance of abatement systems
- timely monitoring, inspection and maintenance
- employing, where appropriate, an approved odour management plan

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.6.2 No condition applies.

2.2.6.3 No condition applies.

2.2.7 Emissions to Land

2.2.7.1 This Part 2.2.7 of this Permit shall not apply to emissions to groundwater.

2.2.7.2 No emission from the Permitted Installation shall be made to land.

2.2.7.3 No condition applies.

2.2.8 Equivalent Parameters or Technical Measures

2.2.8.1 No condition applies.

2.3 Management

2.3.1 A copy of this Permit and those parts of the application referred to in this Permit shall be available, at all times, for reference by all staff carrying out work subject to the requirements of the Permit.

Training

2.3.2 The Permitted Installation shall be supervised by staff who are suitably trained and fully conversant with the requirements of this Permit.

2.3.3 All staff shall be fully conversant with those aspects of the Permit conditions which are relevant to their duties and shall be provided with adequate professional technical development and training and written operating instructions to enable them to carry out their duties.

2.3.4 The Operator shall maintain a record of the skills and training requirements for all staff whose tasks in relation to the Permitted Installation may have an impact on the environment and shall keep records of all relevant training.

Maintenance

2.3.5 All plant and equipment used in operating the Permitted Installation, the failure of which could lead to an adverse impact on the environment, shall be maintained in good operating condition.

2.3.6 The Operator shall maintain a record of relevant plant and equipment covered by condition 2.3.5 and for such plant and equipment:

2.3.6.1 a written or electronic maintenance programme; and

2.3.6.2 records of its maintenance.

Incidents and Complaints

2.3.7 The Operator shall maintain and implement written procedures for:

2.3.7.1 taking prompt remedial action, investigating and reporting actual or potential non-compliance with operating procedures or emission limits; and

2.3.7.2 investigating incidents, (including any malfunction, breakdown or failure of plant, equipment or techniques, down time, any short term and long term remedial measures and near misses) and prompt implementation of appropriate actions; and

2.3.7.3 ensuring that detailed records are made of all such actions and investigations.

2.3.8 The Operator shall record and investigate complaints concerning the Permitted Installation's effects or alleged effects on the environment. The record shall give the date and nature of complaint, time of complaint, name of complainant (if given), a summary of any investigation and the results of such investigation and any actions taken.

2.4 Efficient use of raw materials

2.4.1 The Operator shall -

2.4.1.1 maintain the raw materials table or description submitted in response to Section 2.4 of the Application and in particular consider on a periodic basis whether there are suitable alternative materials to reduce environmental impact;

2.4.1.2 carry out periodic waste minimisation audits and water use efficiency audits. If such an audit has not been carried out in the 2 years prior to the issue of this Permit, then the first such audit shall take place within 2 years of its issue. The methodology used and an action plan for increasing the efficiency of the use of raw materials or water shall be submitted to the Agency within 2 months of completion of each such audit and a review of the audit and a description of progress made against the action plan shall be submitted to the Agency at least every 4 years thereafter; and

2.4.1.3 ensure that incoming water use is directly measured and recorded.

2.5 Waste Storage and Handling

2.5.1 The Operator shall design, maintain and operate all facilities for the storage and handling of waste on the Permitted installation such that there are no releases to water or land during normal operation and that emissions to air and the risk of accidental release to water or land are minimised.

2.5.2 No condition applies.

2.6 Waste recovery or disposal

2.6.1 Waste produced at the Permitted Installation shall be:

2.6.1.1 recovered to no lesser extent than described in the Application; and

2.6.1.2 where not recovered, disposed of while avoiding or reducing any impacts on the environment provided always that this is not done in any way that would have a greater effect on the environment than that described in the Application.

2.6.2 The Operator shall maintain the waste recovery or disposal table or description submitted in response to Section 2.6 of the Application and in particular review the available options for waste recovery and disposal for the purposes of complying with condition 2.6.1 above.

2.6.3 The Operator shall maintain and implement a system which ensures that a record is made of the quantity, composition, origin, destination (including whether this is a recovery or disposal operation) and where relevant removal date of any waste that is produced at the Permitted Installation.

2.6.4 No condition applies.

2.7 Energy Efficiency

2.7.1 The Operator shall produce a report on the energy consumed at the Permitted Installation over the previous calendar year, by 31 January each year, providing the information required by condition 4.1.2.

2.7.2 The Operator shall maintain and update annually an energy management system which shall include, in particular, the monitoring of energy flows and targeting of areas for improving energy efficiency.

2.7.3 The Operator shall design, maintain and operate the Permitted Installation so as to secure energy efficiency, taking into account relevant guidance including the Agency's Energy Efficiency Horizontal Guidance Note as from time to time amended. Energy efficiency shall be secured in particular by:

- ensuring that the appropriate operating and maintenance systems are in place;
- ensuring that all plant is adequately insulated to minimise energy loss or gain;
- ensuring that all appropriate containment methods, (e.g. seals and self-closing doors) are employed and maintained to minimise energy loss;
- employing appropriate basic controls, such as simple sensors and timers, to avoid unnecessary discharge of heated water or air;
- where building services constitute more than 5% of the total energy consumption of the installation, identifying and employing the appropriate energy efficiency techniques for building services, having regard in particular to the Building services part of the Agency's Energy Efficiency Horizontal Guidance Note H2; and

maintaining and implementing an energy efficiency plan which identifies energy saving techniques that are applicable to the activities and their associated environmental benefit and prioritises them, having regard to the appraisal method in the Agency's Energy Efficiency Horizontal Guidance Note H2.

2.8 Accident prevention and control

2.8.1 The Operator shall maintain and implement when necessary the accident management plan submitted or described in response to Section 2.8 of the Application. The plan shall be reviewed at least every 2 years or as soon as practicable after an accident, whichever is the earlier, and the Agency notified of the results of the review within 2 months of its completion.

2.9 Noise and Vibration

2.9.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce emissions of noise and vibration from the Permitted Installation, in particular by:

- equipment maintenance, eg. of fans, pumps, motors, conveyors and mobile plant;
- use and maintenance of appropriate attenuation, eg. silencers, barriers, enclosures;
- timing and location of noisy activities and vehicle movements;
- periodic checking of noise emissions, either qualitatively or quantitatively; and
- maintenance of building fabric,

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.9.2 No condition applies.

2.9.3 No condition applies.

2.10 On-site Monitoring

2.10.1 The Operator shall maintain and implement an emissions monitoring programme which ensures that emissions are monitored from the specified points, for the parameters listed in and to the frequencies and methods described in Table 2.2.2, unless otherwise agreed in writing, and that the results of such monitoring are assessed. The programme shall ensure that monitoring is carried out under an appropriate range of operating conditions.

2.10.2 The Operator shall carry out environmental or other specified substance monitoring to the frequencies and methods described in Table 2.10.1

Table 2.10.1 : Other monitoring requirements

Emission point reference or source or description of point of measurement	**Substance or parameter**	**Monitoring frequency**	**Monitoring method** (Note 4)	**Other specifications**
A2	White Spirit, expressed as C (mgm^{-3})	Annual	BS EN 13649	
A2, A5 & A7	Main metal(s) associated with particulate emission (mgm^{-3}) (Note 5)	Annual	BS EN 14385	
A2, A5 & A7	Gas Flow (m^3s^{-1})	Annual	BS EN 13284-1:2002	
A7 Filter Unit	Pressure Drop (Pa)	Weekly	Filter Unit Pressure Gauge	
S1	Suspended Solids (mgm^{-3})	Quarterly		Analysis by UKAS accredited laboratory

Note 4: Monitoring methods may be subject to change, and can be changed by prior agreement in writing from the Environment Agency.

Note 5: Main metals: Thallium, Selenium, Gallium, Arsenic and Germanium.

2.10.3 The Operator shall carry out monitoring of the process variables listed in Table 2.10.1 to the frequencies and methods described in that Table.

2.10.4 No condition applies.

2.10.5 The Operator shall notify the Agency at least 14 days in advance of undertaking monitoring and/ or spot sampling, where such notification has been requested in writing by the Agency.

2.10.6 The Operator shall maintain records of all monitoring taken or carried out (this includes records of the taking and analysis of samples instrument measurements (periodic and continual), calibrations, examinations, tests and surveys) and any assessment or evaluation made on the basis of such data.

2.10.7 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme in condition 2.10.1 of this Permit and the environmental or other monitoring specified in condition 2.10.2 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing.

2.10.8 There shall be provided:

2.10.8.1 safe and permanent means of access to enable sampling/monitoring to be carried out in relation to the emission points specified in Schedule 2 to this Permit, unless otherwise specified in that Schedule; and

2.10.8.2 safe means of access to other sampling/monitoring points when required by the Agency.

2.10.9 The Operator shall carry out the on-going monitoring identified in the Site Protection and Monitoring Programme submitted under condition 4.1.7, unless otherwise agreed in writing by the Agency.

2.10.10 The Operator shall, within 6 months of the issue of this Permit, in accordance with and using the format given in the Land Protection Guidance:

2.10.10.1 collect the site reference data identified in the Site Protection and Monitoring Programme submitted under condition 4.1.7, and

2.10.10.2 report that site reference data to the Agency,

- unless otherwise agreed in writing by the Agency.

2.11 Closure and Decommissioning

2.11.1 The Operator shall maintain and operate the Permitted Installation so as to prevent or minimise any pollution risk, including the generation of waste, on closure and decommissioning in particular by:-

2.11.1.1 attention to the design of new plant or equipment;

2.11.1.2 the maintenance of a record of any events which have, or might have, impacted on the condition of the site along with any further investigation or remediation work carried out; and

2.11.1.3 the maintenance of a site closure plan to demonstrate that the installation can be decommissioned avoiding any pollution risk and returning the site of operation to a satisfactory state.

2.11.2 Notwithstanding condition 2.11.1 of this Permit, the Operator shall carry out a full review of the Site Closure Plan at least every 4 years.

2.11.3 The site closure plan shall be implemented on final cessation or decommissioning of the Permitted activities or part thereof.

2.11.4 The Operator shall give at least 30 days written notice to the Agency before implementing the site closure plan.

2.12 Multiple Operator installations

2.12.1 This is not a multi-Operator installation

2.13 Transfer to effluent treatment plant

2.13.1 No transfers to effluent treatment plant are controlled under this part of this Permit.

2.13.2 No condition applies.

3 Records

3.1 The Operator shall ensure that all records required to be made by this Permit and any other records made by it in relation to the operation of the Permitted Installation shall:-

3.1.1 be made available for inspection by the Agency at any reasonable time;

3.1.2 be supplied to the Agency on demand and without charge;

3.1.3 be legible;

3.1.4 be made as soon as reasonably practicable;

3.1.5 indicate any amendments which have been made and shall include the original record wherever possible;

3.1.6 be retained at the Permitted Installation, or other location agreed by the Agency in writing, for a minimum period of 4 years from the date when the records were made, unless otherwise agreed in writing; and

3.1.7 where they concern the condition of the site of the Installation or are related to the implementation of the Site Protection and Monitoring Programme, be kept at the Permitted Installation, or other location agreed by the Agency in writing, until all parts of the Permit have been surrendered.

4 Reporting

4.1.1 All reports and written and or oral notifications required by this Permit and notifications required by Regulation 16 of the PPC Regulations shall be made or sent to the Agency using the contact details notified in writing to the Operator by the Agency.

4.1.2 The Operator shall, unless otherwise agreed in writing, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:-

4.1.2.1 in respect of the parameters and emission points specified in Table S2 to Schedule 2;

4.1.2.2 for the reporting periods specified in Table S2 to Schedule 2 and using the forms specified in Table S3 to Schedule 3;

4.1.2.3 giving the information from such results and assessments as may be required by the forms specified in those Tables; and

4.1.2.4 to the Agency within 28 days of the end of the reporting period.

4.1.3 The Operator shall submit to the Agency a report on the performance of the Permitted Installation over the previous year, by 31 January each year, providing the information listed in Tables S4.1 and S4.2 of Schedule 4, assessed at any frequency specified therein, and using the form specified in Table S3 to Schedule 3.

4.1.4 The Operator shall review fugitive emissions, having regard to the application of Best Available Techniques, on an annual basis, or such other period as shall be agreed in writing by the Agency, and a summary report on this review shall be sent to the Agency detailing such releases and the measures taken to reduce them within 3 months of the end of such period.

4.1.5 Where the Operator has a formal environmental management system applying to the Permitted Installation which encompasses annual improvement targets the Operator shall, not later than 31 January in each year, provide a summary report of the previous year's progress against such targets.

4.1.6 The Operator shall, within 6 months of receipt of written notice from the Agency, submit to the Agency a report assessing whether all appropriate preventive measures continue to be taken against pollution, in particular through the application of the best available techniques, at the installation. The report shall consider any relevant published technical guidance current at the time of the notice which is either supplied with or referred to in the notice, and shall assess the costs and benefits of applying techniques described in that guidance, or otherwise identified by the Operator, that may provide environmental improvement.

4.1.7 The Operator shall, within two months of the date of this permit, submit a detailed Site Protection and Monitoring Programme, in accordance with and using the appropriate template format given in the Land Protection Guidance. The Operator shall implement and maintain the Site Protection and Monitoring Programme (SPMP) submitted under condition 4.1.7, and shall carry out regular reviews of it at a minimum frequency of every 2 years. The results of such reviews and any changes made to the SPMP shall be reported to the Agency within 1 month of the review or change.

4.1.8 No condition applies.

5 Notifications

5.1.1 The Operator shall notify the Agency **without delay** of:-

5.1.1.1 the detection of an emission of any substance which exceeds any limit or criterion in this Permit specified in relation to the substance;

5.1.1.2 the detection of any fugitive emission which has caused, is causing or may cause significant pollution;

5.1.1.3 the detection of any malfunction, breakdown or failure of plant or techniques which has caused, is causing or has the potential to cause significant pollution; and

5.1.1.4 any accident which has caused, is causing or has the potential to cause significant pollution.

5.1.2 The Operator shall submit written confirmation to the Agency of any notification under condition 5.1.1, by sending:-

5.1.2.1 the information listed in Part A of Schedule 1 to this Permit within 24 hours of such notification; and

5.1.2.2 the more detailed information listed in Part B of that Schedule as soon as practicable thereafter;

and such information shall be in accordance with that Schedule.

5.1.3 The Operator shall give written notification as soon as practicable prior to any of the following:-

5.1.3.1 permanent cessation of the operation of part or all of the Permitted Installation;

5.1.3.2 cessation of operation of part or all of the Permitted Installation for a period likely to exceed 1 year; and

5.1.3.3 resumption of the operation of part or all of the Permitted Installation after a cessation notified under condition 5.1.3.2.

5.1.4 The Operator shall notify the Agency, as soon as reasonably practicable, of any information concerning the state of the Site which adds to that provided to the Agency as part of the Application or to that in the Site Protection and Monitoring Programme submitted under condition 4.1.7 of this Permit.

5.1.5 The Operator shall notify the following matters to the Agency in writing within 14 days of their occurrence:-

5.1.5.1 where the Operator is a registered company:-

- any change in the Operator's trading name, registered name or registered office address;
- any change to particulars of the Operator's ultimate holding company (including details of an ultimate holding company where an Operator has become a subsidiary)
- any steps taken with a view to the Operator going into administration, entering into a company voluntary arrangement or being wound up;

5.1.5.2 where the Operator is a corporate body other than a registered company:

- any change in the Operator's name or address;
- any steps taken with a view to the dissolution of the Operator.

5.1.5.3 In any other case: -

- the death of any of the named Operators (where the Operator consists of more than one named individual);

- any change in the Operator's name(s) or address(es);
- any steps taken with a view to the Operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case them being in a partnership, dissolving the partnership;

5.1.6 Where the Operator has entered into a Climate Change Agreement with the Government, the Operator shall notify the Agency within one month of:-

5.1.6.1 a decision by the Secretary of State not to re-certify that Agreement.

5.1.6.2 a decision by either the Operator or the Secretary of State to terminate that agreement.

5.1.6.3 any subsequent decision by the Secretary of State to re-certify such an Agreement.

5.1.7 Where the Operator has entered into a Direct Participant Agreement in the Emissions Trading Scheme which covers emissions relating to the energy consumption of the activities, the Operator shall notify the Agency within one month of:-

5.1.7.1 a decision by the Operator to withdraw from or the Secretary of State to terminate that agreement.

5.1.7.2 a failure to comply with an annual target under that Agreement at the end of the trading compliance period.

5.1.8 The Operator shall notify the Agency in writing, of any known or planned introduction or material emission from the permitted installation to sewer, that may increase the concentration of any "dangerous substance", as defined in List I and List II of the Dangerous Substances Directive, 76/464/EEC, and its daughter directives.

6 Interpretation

6.1.1 In this Permit, the following expressions shall have the following meanings:-

"Application" means the application for this Permit, together with any response to a notice served under Schedule 4 to the PPC Regulations and any operational change agreed under the conditions of this Permit.

"background concentration" means such concentration of that substance as is present in:

- water supplied to the site; or
- where more than 50% of the water used at the site is directly abstracted from ground or surface water on site, the abstracted water; or
- where the Permitted Installation uses no significant amount of supplied or abstracted water, the precipitation on to the site.

"BAT" means best available techniques means the most effective and advanced stage of development of activities and their methods of operation which indicates the practical suitability of particular techniques to prevent and where that is not practicable to reduce emissions and the impact on the environment as a whole. For these purposes: "available techniques" means "those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the operator"; "best" means "in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole" and "techniques" "includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned." . In addition, Schedule 2 of the PPC Regulations has effect in relation to the determination of BAT.

"Fugitive emission" means an emission to air or water (including sewer) from the Permitted Installation which is not controlled by an emission or background concentration limit under conditions 2.2.1.3, 2.2.2.4, 2.2.2.5, 2.2.2.8 or 2.2.2.9 of this Permit.

"Groundwater" means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"Land Protection Guidance" means the version of the Agency guidance note "H7 - *Guidance on the Protection of Land under the PPC Regime: Application Site Report and Site Protection and Monitoring Programme",* including its appended templates for data reporting, which is current at the time of issue of the Permit.

"$L_{Aeq,T}$" means the equivalent continuous A-weighted sound pressure level in dB determined over time period, T.

"$L_{A90,T}$" means the A-weighted sound pressure level in dB exceeded for 90% of the time period, T.

"L_{AFmax}" means the maximum A weighted sound level measurement in dB measured with a fast time weighting.

"MCERTS" means the Environment Agency's Monitoring Certification Scheme.

"Monitoring" includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

"Permitted Installation" means the activities and the limits to those activities described in Table 1.1.1 of this Permit.

"PPC Regulations" means the Pollution, Prevention and Control (England and Wales) Regulations SI 2000 No.1973 (as amended) and words and expressions defined in the PPC Regulations shall have the same meanings when used in this Permit save to the extent they are specifically defined in this Permit.

"Sewer" means sewer within the meaning of section 219(1) of the Water Industry Act 1991.

"Staff" includes employees, directors or other officers of the Operator, and any other person under the Operator's direct or indirect control, including contractors.

"Year" means calendar year ending 31 December.

6.1.2 Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

6.1.3 Unless otherwise stated, any references in this Permit to concentrations of substances in emissions into air means:-

6.1.3.1 in relation to gases from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or

6.1.3.2 in relation to gases from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content

6.1.4 Where any condition of this Permit refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the wording of the document(s) with the most recent date shall prevail to the extent of such conflict.

Schedule 1 - Notification of abnormal emissions

This page outlines the information that the Operator must provide to satisfy conditions 5.1.1 and 5.1.2 of this Permit.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the PPC Regulations.

Part A

Permit Number	BX4666IZ
Name of Operator	Thales Optics Limited
Location of Installation	Glascoed Road, St. Asaph, Denbighshire, LL17 0LL
Location of the emission	
Time and date of the emission	

Substance(s) emitted	Media	Best estimate of the quantity or the rate of emission	Time during which the emission took place

Measures taken, or intended to be taken, to stop the emission	

Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment or harm which has been or may be caused by the emission	
The dates of any unauthorised emissions from the installation in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of Thales Optics Limited.

Schedule 2 - Reporting of monitoring data

Parameters for which reports shall be made, in accordance with conditions 4.1.2 and 4.1.3 of this Permit, are listed below.

Table S2: Reporting of monitoring data

Parameter	Emission point	Reporting period	Period begins	
Particulate Matter (mgm^{-3})	A2, A5 & A7	Every 12 months	01/01/05	
Main metal(s) potentially present (mgm^{-3})	A2, A5 & A7	Every 12 months	01/01/05	
Pressure Drop across Filter Unit (Pa)	A7	Quarterly	01/07/05	
Suspended Solids (mgl^{-1})	S1	Quarterly	01/07/05	
White Spirit, expressed as C (mgm^{-3})	A2	Every 12 months	01/01/05	
Dichloromethane (mgm^{-3})	A9	Every 12 months	01/01/05	
Extraction Rate (m^3s^{-1})	A2, A5, A7 & A9	Every 12 months	01/01/05	
Particulate matter (g/annum)	A2, A5 & A7 (combined)	Every 12 months	01/01/05	
Thallium and its compounds, as Tl (g/annum)	A2, A5 & A7 (combined)	Every 12 months	01/01/05	(Note 6)
Gallium and its compounds, as Ga (g/annum)	A2, A5 & A7 (combined)	Every 12 months	01/01/05	(Note 6)
Selenium and its compounds, as Se (g/annum).	A2, A5 & A7 (combined)	Every 12 months	01/01/05	(Note 6)
Arsenic and its compounds, as As (g/annum).	A2, A5 & A7 (combined)	Every 12 months	01/01/05	(Note 6)
Germanium and its compounds, as Ge (g/annum)	A2, A5 & A7 (combined)	Every 12 months	01/01/05	(Note 6)
Volatile Organic Compounds (kg/annum)	Installation	Every 12 months	01/01/05	
Water usage (m^3/annum)	Installation	Every 12 months	01/01/05	(Note 7)
Energy usage (MWh/annum)	Installation	Every 12 months	01/01/05	
Waste disposal and/or recovery (tonnes/annum)	Installation	Every 12 months	01/01/05	

Note 6: To be calculated from an estimate of the annual machining time for comparable infra-red raw materials, measured gas flow rates and the concentration(s) of the main metal(s) in emissions for the specified release points.

Note 7: Prior to completion of improvement condition 8, water consumption within the installation is to be estimated.

Schedule 3 - Forms to be used

Table S3: Reporting Forms		
Media / parameter	**Form Number**	**Date of Form**
Air	A1	July 2005
Sewer	S2	July 2005
Energy	E1	July 2005
Waste Return	R1	July 2005
Water usage	WU1	July 2005
Performance indicators	PI1	July 2005

Schedule 4 - Reporting of performance data

Data required to be recorded and reported by Condition 4.1.3. The data should be assessed at the frequency given and reported annually to the Agency.

Table S4.1: Annual Production/Treatment	
Infra-Red Optics (lenses & windows)	Number

Table S4.2: Performance parameters			
Parameter		**Frequency of assessment**	**Performance indicator**
Water use		Annual	litres / infra-red optic
Energy Usage		Annual	kWh / infra-red optic

Schedule 5 - Site Plan

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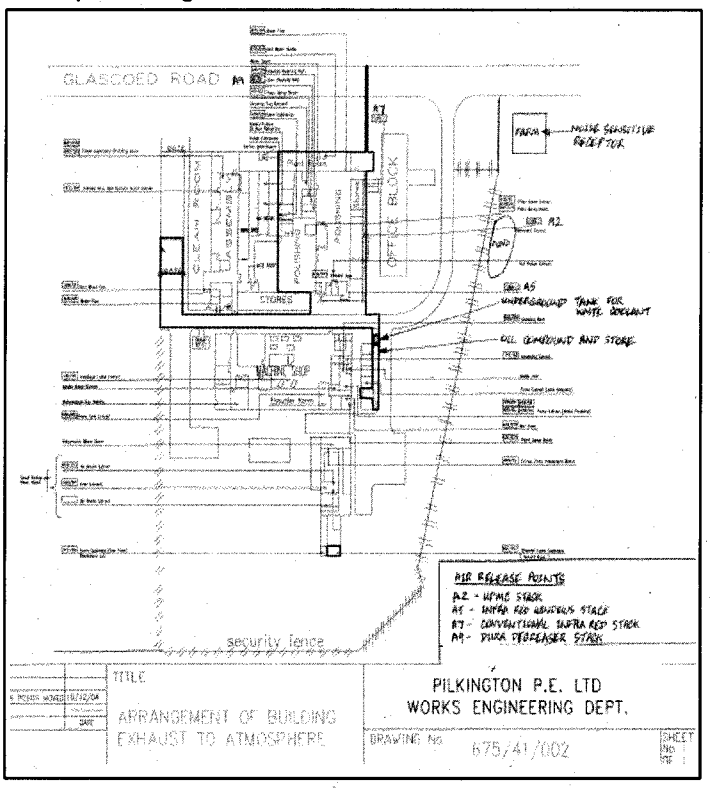

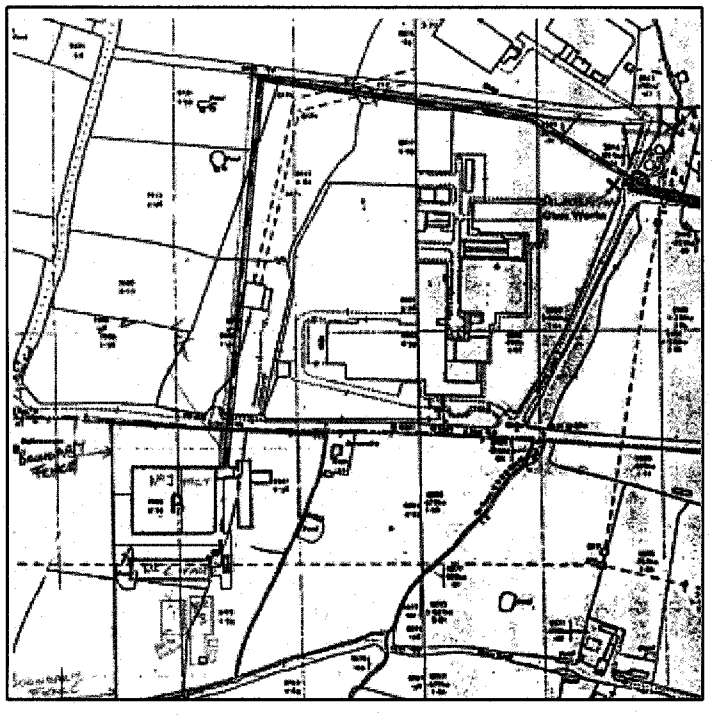

END OF PERMIT