

Odorant systems for gas transmission and distribution



*Founded 1863
Royal Charter 1929
Patron: Her Majesty the Queen*

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***Odorant systems for gas transmission
and distribution***



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SECTION 1 : INTRODUCTION

- 1.1 This Standard supersedes IGE/SR/16, Communication 1418, which is obsolete.
- 1.2 This Standard applies for personnel involved in the design, construction, installation, testing, operation, maintenance and de-commissioning of plant used for the odourisation of Natural Gas and Liquefied Petroleum Gas (LPG). It is based on almost 50 years experience of odourising Natural Gas in Great Britain (GB) and Northern Ireland.
- 1.3 This Standard is published by the Institution of Gas Engineers and Managers (IGEM). It has been drafted by an IGEM Panel appointed by IGEM's Gas Safety and Environment Committee, and has been approved by IGEM's Technical Co-ordinating Committee on behalf of the Council.
- 1.4 For Natural Gas, the characteristic smell of early supplies was due to small amounts of organic sulphur compounds present in gases from the southern North Sea basin, such as those from the Leman field. Subsequent supplies, in particular those from the northern North Sea, were found to contain little "indigenous" sulphur compounds and it was found necessary to add small amounts of odorant in order to impart a characteristic smell. Odorants are added to Natural Gas for reasons of public safety so as to alert members of the public to leaks of gas. Following privatisation of the gas industry in GB, the introduction of the Gas Safety (Management) Regulations (GS(M)R) in 1996 placed a formal obligation on gas transporters (GTs) to convey gas that meets certain gas quality requirements. One such requirement was that gas must be treated with a "suitable stenching agent" so as to ensure it has a "distinctive and characteristic" odour. Furthermore, the Regulations require that the odour "shall remain distinctive and characteristic when the gas is mixed with gas which has not been so treated". However, the requirement for Natural Gas to have a distinctive and characteristic odour does not apply when the gas is at a pressure of exceeding 7 bar.

For LPG in its refined state, the gas is normally odourless. Published standards, for example UKLPG Technical Fundamentals, call for LPG to have a characteristic odour, to enable leaks to be easily detected. This is usually achieved by addition of a stenching agent.

Note: Further information is contained in BS 4250 and PGN 1/15 (04).

- 1.5 A characteristic odour is achieved by selection of an appropriate odorant that imparts an odour that is generally recognisable by members of the public as "gassy" and less likely to be confused with other smells, such as drains, sewers etc. The current odorant employed by GTs in the United Kingdom (UK), for Natural Gas is odorant NB, a blend of t-butyl mercaptan (TBM) and dimethyl sulphide and for LPG is ethyl mercaptan tetrahydrothiophene (THT).

Note: For information on other odorants that may be used, refer to BS EN ISO 13734.

- 1.6 A distinctive odour is achieved by selection of an appropriate concentration of odorant in the supplied gas. Addition of odorant so as to achieve, for a mixture of 1% Natural Gas in air (0.4% LPG in air), an odour intensity of 2 olfactory degrees on the Sales scale is widely accepted as achieving this requirement. This enables a leak to be detected well before the gas concentration in air reaches the lower flammability limit (LFL) (around 5% for Natural Gas and 2% for LPG).
- 1.7 Where a supplied gas contains toxic components, the addition of odorant generally enables a leak to be noticed before the concentration of the toxic component reaches an unacceptable level.

- 1.8 The constituents of the odorant used need to be closely specified and careful monitoring is necessary to ensure that consistent odour levels are present.
- Note: This may be achieved by suitable quality control at the suppliers and not necessarily by chemical analysis.*
- 1.9 Odorant liquids are volatile, flammable and of noxious smell. Uncontained odorant constitutes a hazard and is environmentally unacceptable.
- 1.10 New terms such as maximum operating pressure (MOP) have been introduced to reflect gas pressure terminology used in European standards. These terms will arise in all relevant IGE Standards in future and, possibly, in other standards.
- 1.11 This Standard makes use of the terms "should", "shall" and "must" when prescribing particular requirements. Notwithstanding Sub-Section 1.14:
- the term "must" identifies a requirement by law in GB at the time of publication
 - the term "shall" prescribes a procedure which, it is intended, will be complied with in full and without deviation
 - the term "should" prescribes a procedure which, it is intended, will be complied with unless, after prior consideration, deviation is considered to be acceptable.
- 1.12 The primary responsibility for compliance with legal duties rests with the employer. The fact that certain employees, for example "responsible engineers", are allowed to exercise their professional judgement does not allow employers to abrogate their primary responsibilities. Employers must:
- have done everything to ensure, so far as it is reasonably practicable, that "responsible engineers" have the skills, training, experience and personal qualities necessary for the proper exercise of professional judgement
 - have systems and procedures in place to ensure that the exercise of professional judgement by "responsible engineers" is subject to appropriate monitoring and review
 - not require "responsible engineers" to undertake tasks which would necessitate the exercise of professional judgement that is not within their competence.
- Note: There should be written procedures defining the extent to which "responsible engineers" can exercise their professional judgement. When "responsible engineers" are asked to undertake tasks which deviate from this, they should refer the matter for higher review.*
- 1.13 It is now widely accepted that the majority of accidents in industry generally are in some measure attributable to human as well as technical factors in the sense that actions by people initiated or contributed to the accidents, or people might have acted in a more appropriate manner to avert them.
- It is therefore necessary to give proper consideration to the management of these human factors and the control of risk. To assist in this, it is recommended that due regard be paid to HS(G)48.
- 1.14 Notwithstanding Sub-Section 1.11, this Standard does not attempt to make the use of any method or specification obligatory against the judgement of the responsible engineer. New and improved practices may be adopted prior to this Standard being updated. Amendments to this Standard will be issued when necessary and their publication will be announced in the Journal of IGE and elsewhere as appropriate.
- 1.15 All pressures are gauge pressures unless otherwise stated.

- 1.16 Italicised text is informative and does not represent formal requirements.
- 1.17 Appendices are informative and do not represent formal requirements unless specifically referenced in the main sections via the prescriptive terms “should”, “shall” or “must”.

Document Reference: IGEM/SR/16

SECTION 2 : SCOPE

- 2.1 This Standard covers the safety aspects of handling bulk supplies of odorant for gas systems (see Sub-Section 2.2) and safety aspects of the design, construction, installation, testing and commissioning of plant for its storage and injection. It also deals with the operation, maintenance, de-commissioning, internal inspection, modification and repair of odorant plant.

- 2.2 This Standard covers odorants for Natural Gas and LPG supply pipes. Each clause applies for both gas types unless otherwise amended or supplemented by the text.

- 2.3 This Standard applies in full to new odorant installations. For existing installations, requirements on re-commissioning, operation, maintenance and de-commissioning apply. It is recommended that existing installations be assessed for compliance with the other aspects of this Standard, for example "plant design" and upgraded if and as appropriate, for example to comply with recent legislation such as the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) (see clause 3.2.6) and the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations (EPS) (see clause 3.2.7) and attainment of safety integrity targets.

- 2.4 Small scale odourisation is of a specialist nature requiring a "non-routine operation" and is not within the scope of this Standard. However, guidance is provided in Appendix 4.

- 2.5 This Standard does not address temporary systems i.e. those systems used for short term contingencies to ensure continuity of odourised gas supply. However, it is recommended that such temporary systems be constructed and operated in accordance with the principles of this Standard. Reference to appropriate standards, for example IGE/GL/6, is also recommended for this non-routine operation.

SECTION 3 : LEGAL AND ALLIED CONSIDERATIONS

3.1 GENERAL

- 3.1.1 This Standard is set out against a background of legislation in force in GB at the time of publication. Similar considerations are likely to apply in other countries where reference to appropriate national legislation is necessary.

All relevant legislation must be applied and relevant Approved Codes of Practice (ACoPs), official Guidance and referenced codes, standards, etc. shall be taken into account.

Note: Appendix 2 is relevant in this respect.

Health and safety legislation must be observed, especially those requirements which are concerned with the duties of employers, not only to their own employees, but also to members of the public who may be affected.

- 3.1.2 Unless otherwise stated, the current editions of legislation and standards apply.
- 3.1.3 In the absence of specific legislation, it is essential that installations are designed, constructed, installed, operated and maintained so as to be safe.
- 3.1.4 The legislation appropriate to any installation will depend largely upon its location. Advice will need to be sought from the relevant Authorities.
- 3.1.5 Where British Standards, etc. are quoted, equivalent national or international standards, etc. equally may be appropriate.
- 3.1.6 Sub-Section 3.3 addresses the requirements for competency, training and qualifications for persons involved with the specific activities covered by this Standard, but not necessarily those covered by legislation (which are identified in Sub-Section 3.2).

3.2 LEGISLATION

3.2.1 Health and Safety at Work etc. Act (HSWA)

HSWA applies to all persons involved with work activities, including employers, the self-employed, employees, designers, manufacturers, suppliers, etc. as well as the owners of premises. It places general duties on such people to ensure, so far as is reasonably practicable, the health, safety and welfare of employees and the health and safety of members of the public who may be affected by the work activity.

3.2.2 Management of Health and Safety at Work Regulations (MHSWR)

MHSWR impose a duty on employers and the self-employed to make assessments of risks to the health and safety of employees, and non-employees affected by their work. They also require effective planning and review of protective measures.

3.2.3 Electricity at Work Regulations

These Regulations apply to a wide range of electrical work, from overhead power lines to the use of office computers and batteries and include work on gas equipment using electrical energy.

The Regulations are concerned with the prevention of danger from electric shock, electric burn, electrical explosion or arcing or from fire or explosion initiated by electrical energy.

The Regulations impose duties on every employer, employee and self-employed person and require that persons engaged in electrical work be competent or be supervised by competent persons.

Note: HS(R)25 provides guidance on the Regulations.

3.2.4 **Construction (Design and Management) Regulations (CDM)**

CDM place duties on clients, designers, contractors and planning supervisors to ensure that health and safety is taken into account and managed effectively throughout all stages of a construction project.

Note: HS(G)224 provides an ACoP and guidance on CDM.

3.2.5 **Pipelines Safety Regulations (PSR)**

PSR provide a means of securing pipeline integrity by ensuring that a pipeline is designed, constructed and operated safely. They apply to all Network pipes operated by a GT. Installations can vary in size and complexity, and installation designers need to give due consideration to the operating pressure (OP) and required gas flows.

Note: HS(L)81 provides an ACoP and guidance and HS(L)82 provides guidance on PSR.

In particular, PSR require that the operator ensures no fluid is conveyed in a pipeline unless the pipeline has been designed so that, as far as is reasonably practicable, examination and maintenance may be carried out safely. PSR also require that the operator ensures that a pipeline is maintained in an efficient state, in efficient order and in good repair.

3.2.6 **Dangerous Substances and Explosive Atmospheres Regulations (DSEAR)**

DSEAR apply to any workplace where there is present any substance or mixture of substances with the potential to create a risk from energetic (energy-releasing) events such as fire, explosions, etc. Such substances, known in DSEAR as dangerous substances, include Natural Gas and LPG.

The following publications contain details of DSEAR and their application:

- HS(L)138
- HS(L)137
- HS(L)136
- HS(L)135
- HS(L)134
- INDG 370.

DSEAR require pipes to be labelled, for example to indicate they contain gas.

Where work is to be carried out in a designated hazardous area, the person carrying out the work must be authorised to work in that area and must obtain the details of the hazardous area classification.

3.2.7 **Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations (EPS)**

EPS provide test regimes to be applied to equipment placed in potentially explosive atmospheres.

3.2.8 **Gas Safety (Management) Regulations (GS(M)R)**

Regulation 8 of GS(M)R places an obligation on GTs not to convey gas in a network unless the gas conforms with the requirements of Part I of Schedule 3 of the Regulations. Schedule 3 (Content and Characteristics of gas) requires that the gas is "treated with a suitable stenching agent to ensure that it has a distinctive and characteristic odour which shall remain distinctive and characteristic when the gas is mixed with gas which has not been so treated, except that this paragraph shall not apply where the gas is at a pressure above 7 bar".

3.2.9 **Transport of Dangerous Goods (Safety Advisors) Regulations**

These Regulations implement a European Community (EC) Directive on the appointment and vocational qualifications of safety advisors for the transport of dangerous goods by road, rail and inland waterway.

Undertakings which transport (or load or unloaded) dangerous goods by road, rail or inland waterway must appoint a Dangerous Goods Safety Advisor (DGSA) who will hold a valid vocational training certificate issued by the competent authority and fulfil a number of specified duties including an annual report to the management.

3.2.10 **Carriage of Dangerous Goods by Road Regulations, as amended**

Carriage of Dangerous Goods by Road (Driver Training) Regulations, as amended

These Regulations implement provisions for the safe carriage of dangerous goods by road and impose duties to provide training for drivers carrying such goods.

The Regulations require:

- limitation of the carriage of goods in bulk or tanks to an approved list
- specification of the criteria for determining the suitability of containers, tanks and vehicles and the requirements for examination and testing of tanks
- specification of the information and documentation to be provided by operators
- the training and certification of drivers and certified to an appropriate standard for the goods carried.

3.2.11 **Chemicals (Hazard Information and Packaging for Supply) Regulations (CHIP)**

Chemicals (Hazard Information and Packaging for Supply) (Amendment) Regulations

Carriage of Dangerous Goods (Classification, Packaging and Labelling) and use of Transportable Pressure Receptacles Regulations, as amended

These Regulations (CHIP3) came in force in July 2002 and revoke all previous CHIP regulations. The new regulations consolidate amendments made by CHIP2 and set out new requirements for the classification and packaging of dangerous substances and preparations.

The Regulations apply to the manufacturers, importers and suppliers of substances and preparations which are dangerous for supply. Such substances must be classified, labelled and supplied with a safety data sheet. In many

instances, the information contained on the labels and data sheets are relevant to safe handling and disposal of the product with regard to protection of the environment.

The Regulations require:

- classification of all dangerous substances and preparations in accordance with the Regulations
- provision of appropriate labels based on the classification
- that suitable packaging is used
- provision of Safety Data Sheets with the materials containing information specified by the Regulations.

3.2.12 **Environment Protection (Duty of Care) Regulations**

Landfill (England and Wales) Regulations

These Regulations are made under Section 34 of the Environmental Protection Act and require producers, carriers and disposers of waste to take reasonable steps to ensure that it is handled safely and lawfully. This involves knowing who is transporting and disposing of the waste and keeping appropriate records.

The Regulations require:

- the prevention of contravention of waste licensing provisions
- containment of waste safely and securely so that it does not escape
- the insurance that, when waste is transferred, it goes to an authorised person
- completion of a Waste Transfer Note which adequately describes the waste
- identification of the waste by reference to the appropriate category in the European Waste Catalogue.

3.2.13 **Hazardous Waste (England and Wales) Regulations**

List of Wastes (England) Regulations

List of Wastes (England) (Amendment) Regulations

These Regulations are made to implement the Hazardous Wastes Directive.

Of particular note under the Regulations:

- mixing of hazardous wastes is prohibited
- premises producing hazardous waste must formally notify the Environment Agency (EA)
- producers must assign a unique code to each consignment
- consignment notes must be completed for each load removed
- producers must maintain a record of all waste movements.

3.2.14 **Waste Electrical and Electronic Equipment Regulations (WEEE)**

The Waste Electrical and Electronic Equipment Directive were implemented within the UK through the Waste Electrical and Electronic Equipment Regulations (WEEE) on 1st April 2007. The new Regulations have been introduced to tackle the growing amount of waste produced in the UK as this type of electrical and electronic equipment is one of the fastest growing waste types. WEEE aim to ensure that more electrical and electronic waste is separately collected for treatment and recovery, and less goes to landfill. WEEE apply to all companies who import, manufacture, or re-brand electrical equipment in the UK; these

companies are known as “producers”. They also affect everyone who uses, sells, treats or disposes of waste electronic and electrical equipment. They affect the way this equipment is disposed of by setting treatment standards and recycling targets and, importantly, by making producers, rather than end-users, pay for its treatment and recycling in most cases.

3.2.15 **Pollution Prevention and Control Regulations**

Waste Incineration (England and Wales) Regulations

These Regulations aim to achieve integrated prevention and control of pollution (IPPC).

Operators of Part A1 and A2 installations will be required to apply for a Permit according to the timetable in Part 1 of Schedule 3.

Operators whose installations undergo a substantial change which has a significant negative effect on the environment are required to obtain an IPPC permit prior to making the change.

3.2.16 **Control of Major Accident Hazard Regulations (COMAH)**

Control of Major Accident Hazard (Amendment) Regulations

COMAH apply to industrial installations where certain quantities of specified substances are stored and relate to the measures in place in order to identify control and mitigate the risks involved in storing such substances.

The (Amendment) Regulations make changes to the schedule of substances and qualifying thresholds. Changes are also made to the aggregation rule for determining operator status under COMAH.

COMAH require:

- notification to the competent authority of quantities of substances stored and status under COMAH
- preparation of a Major Accident Prevention Policy (MAPP) Document
- taking necessary measures to prevent major accidents.

3.2.17 **Planning (Hazardous Substances) Regulations, as amended by the Planning (Control of Major Accident Hazards) Regulations**

These Regulations list the substances and their quantities which require consent.

The 2005 Regulations reflect the changes made to COMAH (see clause 3.2.16) in 2005.

The Regulations require:

- consent from the local authorities for storage of certain hazardous substances in specific quantities
- that details on storage arrangements, bunding etc. specified in the application, must be adhered to
- that additional listed substances or changes in inventory, which would exceed consented limits, are subject to modifications of the consent.

3.2.18 **Control of Substances Hazardous to Health Regulations (COSHH)**

These Regulations require employers to assess the health risks associated with the use of and exposure to substances which are hazardous to health. Primarily, they relate to health and safety at work but chemical data gathered for COSHH may also be useful when assessing environmental effects.

COSHH require:

- a written risk assessment prior to using substances which may be hazardous to health
- consideration to the properties, health effects and form of these substances. Various amendments have required specific attention be given to carcinogens, asthmogens and biological agents.

The 2004 amendments implement a new framework for occupational exposure limits and bring together eight principles of good practice.

3.2.19 **The Work Height Regulations**

These Regulations replace all earlier regulations about working at height and address minimum safety requirements for the use of equipment for work at height.

The Regulations require that the Duty Holder:

- does all that is reasonably practicable to prevent anyone falling
- avoids work at height where they can
- uses work equipment or other measures to prevent falls when working at height cannot be avoided
- uses work equipment or other measures to minimise the distance and consequences should a fall occur.

3.2.20 **Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)**

3.2.20.1 RIDDOR require employers, self employed people or those in control of work premises to report certain work related accidents, diseases and dangerous occurrences.

3.2.20.2 Other people have duties to report certain gas incidents which may not appear to be work related:

- Death or major injury arising out of the distribution, filling, import or supply of Natural Gas must be reported by the conveyor
- Dangerous gas fittings (as defined in RIDDOR) must be reported by a "member of a class of persons".

3.2.20.3 Major injuries, death and dangerous occurrences must be notified immediately, for example by telephone, to the enforcing authority by the "responsible person" as defined by RIDDOR. Reports can be made to the Incident Contact Centre by:

- telephone on 0845 300 9923
- fax on 0845 300 9924
- email to riddor@natbrit.com
- internet at www.riddor.gov.uk or
- via a link from HSE website at www.hse.gov.uk.

It is also possible to report to the local Health and Safety Executive (HSE) office by telephone and then follow up with a written report on the correct F2508 form

within the required timescale (10 days, or 14 days for dangerous gas fittings). Other reports should be made as soon as practicable and must be made within 10 days of the incident.

Note: HS(L)73 contains detailed guidance on RIDDOR, including a full list of injuries etc. that need reporting. The leaflets HS(E)61 and MISC 310 give some information on RIDDOR and how to report.

3.2.21 **Provision and Use of Work Equipment Regulations (PUWER)**

3.2.21.1 Work equipment has a wide meaning and includes tools such as hammers, laboratory apparatus, for example Bunsen burners, ladders, photocopiers, lifting equipment and machinery for use at work.

3.2.21.2 PUWER place duties on employers in relation to selection, suitability, maintenance, inspection, installation, instruction and training, prevention of danger and control of equipment.

Note: More information on PUWER can be found in HS(L)22. Free leaflets include INDG 291 and INDG 229.

3.2.22 **Confined Spaces Regulations**

These Regulations apply to a whole range of confined spaces. The supplier or designer of an enclosure and equipment within it is required to perform a risk assessment of the enclosure with respect to safe access and egress and to give clear instructions to operators on access/egress as well as to what actions to take in the event of a gas alarm occurring. Employers and the self employed should prevent entry into confined spaces unless avoidance is not reasonably practicable and unless there is a system of work which renders the work safe. They are also required to have specific emergency arrangements in place.

3.2.23 **Pressure Systems Safety Regulations (PSSR)**

3.2.23.1 PSSR impose duties on designers, importers, suppliers, installers and user or owners to ensure that pressure systems do not give rise to danger. This is done by the correct design, installation and maintenance, provision of information, operation within safe operating limits and, where applicable, examination in accordance with a written scheme of examination drawn up or approved by a competent person (as defined by PSSR).

3.2.23.2 Relevant fluids for the purpose of this document would be natural gas at a pressure greater than 0.5 bar above atmospheric pressure. A pressure system would include bulk storage tanks, pressure vessels, pipelines and protective devices. Once the pressure in the pipework drops below 0.5 barg, and the user/owner can show clear evidence that the system does not contain, and is not liable to contain, a relevant fluid under foreseeable operating conditions, then that part of the system is no longer covered by PSSR. This is likely to be the case after the pressure relief valve associated with a pressure reducing valve which takes the pressure to below 0.5 barg, for example at the entry to a building.

3.2.23.3 Note the special requirements placed on protective devices in such systems (see para 110b of HS(L)122). PSSR also apply to pipelines and their protective devices in which the pressure exceeds 2 barg (see Sch 1 part 1 item 5 of HS(L)122).

Note: More information is available in HS(L)122 and some information is presented in the HSE free leaflets INDG 261 and INDG 178.

3.2.24 **Environmental Protection Act (EPA)**

Environmental Protection (Prescribed Processes and Substances) Regulations and Amendment

- 3.2.24.1 Part 1 of EPA makes provision for integrated pollution control. It also makes provision for control of air pollution by local authorities. Prescribed processes require authorisation and, in granting authorisation, the enforcing authority has to seek to ensure that the best available techniques not entailing excessive cost are employed to prevent or minimise the release of any substance prescribed for any environmental medium.
- 3.2.24.2 The Prescribed Processes and Substances Regulations as amended specify the substances for which the release into a particular medium is controlled. They also designate the prescribed processes either for central integrated pollution control by Her Majesty's Inspectorate of Pollution in England and Wales (HM Industrial Pollution Inspectorate in Scotland) or for Local Authority (LA) air pollution control.
- 3.2.24.3 Schedule 3 (as amended) lists in Section 1.1 Part B the following processes:
- (a) Odourising Natural Gas or LPG, except where that process is related to a Part A process.
 - (b) Blending odourant for use with Natural Gas or Liquefied Natural Gas (LNG).
- Part B processes require air pollution control by Local Authority but may be subject to the jurisdiction of the EA.

3.2.25 **Pollution Prevention and Control Act 1999 (PPC Act)**

Pollution Prevention and Control (England and Wales) Regulations 2000 (Scotland) Regulations 2000 (PPC Regulations)

- 3.2.25.1 There are two new pollution control regulatory regimes introduced under the PPC Act. Local Authorities are the regulators for the new regime, known as:
- Local authority Integrated Pollution Prevention and Control (LA-IPPC) which covers installations referred to as A2 installations (referred to as A(2) under section 1.2, part A of schedule 1 in the PPC Regulations).
 - Local authority Pollution Prevention and Control (LAPPC), which covers installations referred to as Part B installations (under section 1.2, Part B of schedule 1 in the PPC Regulations).
- The process of odourising Natural Gas or LNG is prescribed for under Part B installation regime except where the activity is related to a Part A activity.
- 3.2.25.2 There is a parallel system – Integrated Pollution Prevention and Control (IPPC), which covers installations referred to as A1 installations (referred to as A(1) in the PPC Regulations) – the EA regulates these installations. Published guidance is available as *"Integrated Pollution Prevention and Control, A Practical Guide"* which specifically deals with the regulation of A1 installations.
- 3.2.25.3 All three systems require the operators of specified industrial and other installations to obtain a permit to operate. An application has to be made and the regulator then decides whether to issue or refuse a permit. If a permit is issued, it will include conditions aimed at reducing and preventing pollution.
- 3.2.25.4 The three systems will gradually replace the pollution control regime set up under Part I of the EPA 1990.

3.2.26 **Secretary of States' Guidance on Odourising Natural Gas and Petroleum Gas (PGN1/15, 2004)**

The Secretary of State, the National Assembly for Wales and the Scottish Ministers issue a note that gives guidance on the conditions appropriate for the control of emissions into the air from processes/installations for odourising natural gas and liquefied petroleum gas.

3.2.27 **Land and planning**

It is advisable to obtain legal advice when proposing to develop land for odorant plant.

3.2.28 **Nature conservation**

3.2.28.1 *Forestry Act*

By the Forestry Act, no licence from the Forestry Commissioners is required for the felling of trees where the felling is immediately required for the purpose of carrying out permitted development, but where a tree preservation order under the Town and Country Planning Act is in force the consent of the local authority must be obtained.

3.2.28.2 *Wildlife and Countryside Act*

This act details the protection given to birds, other animals and plants. It states the duties of the County Councils to establish Sites of Special Scientific Interest (SSSIs) to protect flora, fauna, geological or physiographic features and details the procedures to protect these sites.

3.2.28.3 *Countryside (Scotland) Act and The Countryside Act*

These acts lay a duty on the Government, local authorities and other public bodies to have regard to the desirability of conserving the natural beauty and amenity of the countryside.

3.2.29 **Water**

Water Resources Act

The necessary consents must be obtained from the appropriate authority for the supply and disposal of water for hydrostatic testing, including the time, point and rate at which water may be drawn.

3.3 **COMPETENCY, TRAINING AND QUALIFICATIONS**

Reference shall be made to Sub-Section 1.12.

3.3.1 **General safety**

3.3.1.1 Personnel shall be adequately trained and instructed in the hazards and procedures associated with odorant handling and plant operations and in operations associated with commissioning and maintenance. Periodic refresher training shall be given as required, for example when procedures are modified/updated.

3.3.1.2 Only appropriately trained personnel shall attempt to tackle an odorant fire.