



CFOA
Chief Fire Officers
Association

The professional voice of the UK Fire & Rescue Service

Inspection and approval of agrochemical stores

**Inspection and approval of agrochemical stores by fire officer in connection with BASIS
Registration Limited**



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Glossary

BASIS	BASIS Registration Limited
CFOA	Chief Fire Officers Association
COMAH	the Control of Major Accident Hazards. A European Directive (96/82) applicable to sites storing above trigger thresholds of certain chemicals. It requires companies to control major hazards on sites that they own and says how this should be done. It aims to prevent major disasters occurring.
COPR	the Control of Pesticides Regulations 1986 and The Control of Pesticides (Amendment) Regulations 1997.
CPA	Crop Protection Association
CRD	Chemical Regulations Directorate (part of HSE)
EPA	Environment Protection Agencies – a generic collective term for The Environment Agency in England, Natural Resources in Wales, the Scottish Environmental Protection Agency in Scotland and the Northern Ireland Environment Agency.
EPO	Environment Protection Officer – a generic term for any officer of the EPA who carries out inspections at BASIS registered stores.
FEPA	the Food & Environmental Protection Act 1985
HSE	Health and Safety Executive
NRW	Natural Resources Wales – the environmental regulator for Wales
NIEA	Northern Ireland Environment Agency – the environmental regulator for Northern Ireland
PPG	Pollution Prevention Guidance Note – produced by the EPAs.
SEPA	Scottish Environmental Protection Agency – the environmental regulator for Scotland.
W UK	Water UK – the trade body for UK water supply and sewage disposal companies or authorities.
Yellow Code	Code of Practice for Suppliers of Pesticides to Agriculture, Horticulture and Forestry. Details statutory aspects of FEPA, practical guidance to meet the requirements.

This guidance is without prejudice to any other legal obligations or Codes of Practice.

Introduction to the BASIS Stores Inspection Scheme

The BASIS Registration Scheme is a system of self-regulation by the agrochemical industry for the safe storage and transport of pesticides. Part III of the Food and Environment Protection Act 1985 (FEPA) has provided powers for strict controls for pesticide storage. Storage of pesticides under the Control of Pesticides 1986 and Control of Pesticides (Amendment) Regulations 1997 (both referred to as COPR), requires **all reasonable precautions** to be taken to protect people, creatures, plants and the environment. Any new pesticide store should have the **highest standards** of design and construction.

Everyone in the commercial sale, supply and storage for sale of pesticides, approved for agricultural use, must comply with the **Code of Practice for Suppliers of Pesticides to Agriculture, Horticulture and Forestry**, otherwise known as the “**Yellow Code**” and the additional Guidelines provided by CRD.

The Yellow Code contains information on how to meet statutory requirements of FEPA and legislation made under FEPA, such as COPR. It also contains non-statutory guidance and good practice information.

The code requires those who sell or supply pesticides to end users to;

- hold a specified certificate recognised by the competent authority;
- have their store facilities and management assessed at least annually by suitable independent experts.

The code recommends that the Environment Agency, NRW, SEPA or NIEA (collectively referred to in this document as EPA), the fire authority and others are consulted during the planning of a new store or the redesigning of an existing one. Once a store is built, commissioned or redesigned, storeowners should write to the EPA and Fire Authority, detailing its location, facilities and any significant changes to it. **All stores** should hold the **written approval** of both the EPA and Fire Authority.

BASIS (Registration) Ltd is recognised by the government as an independent organisation and competent body for assessing and certifying stores against legal and good practice requirements of FEPA and Plant Protection Products (Sustainable Use) Regulations 2012. Fundamental to the BASIS certification scheme is that the EPA assesses environmental risk, pollution control and waste management matters and that the fire authority assess fire prevention and protection matters.

Stores can **only** become *certificated* with BASIS if:

- a) they pass assessment by the EPA;
- b) they comply with the requirements of fire safety legislation;
- c) they pass the annual assessment carried out by BASIS; which includes environmental and fire protection measures;
- d) have a satisfactory annual staff audit in accordance with the “Yellow Code”.

The BASIS Scheme is not compulsory but provides reassurance that the store meets all relevant requirements. Certification does not give the storekeeper any immunity from prosecution for any breach of environmental (or other) legislation.

Role of the Fire Authority and EPA in BASIS Store Inspection Scheme

The fire authority and EPA support the BASIS scheme by:

- assessing registered stores on a regular basis, using current guidance;
- providing an initial standard letter of approval or non-approval, highlighting the areas of remedial work required before approval can be given;
- liaising with BASIS Registration Ltd where necessary and by copying all correspondence arising from assessments and inspections.

A pesticide store (whether registered under BASIS or not), is an industrial building containing chemicals which are potentially capable of causing serious pollution of surface or ground waters. Each store should apply the relevant pollution prevention and control policies and procedures, taking into account their individual circumstances.

The general principle is to provide secondary containment for each storage building, with some provision for emergency tertiary retention that may use adjacent yards/access ways/drainage systems. Some compromise may be required for existing stores but this must be acceptable to the EPA.

EPAs recommend that, prior to constructing a new store or altering an existing store, the site operator should discuss their proposals with the Fire Authority, EPA, BASIS Registration Ltd and/or other regulatory bodies.

A standard letter should be used to tell the site operator whether the store is passed as “satisfactory” or “unsatisfactory”(shown in Appendix 1). If unsatisfactory, the letter should explain the remedial work or actions required to bring the store up to a satisfactory standard.

The site operator is responsible for notifying the fire authority and the EPA when they have completed the work necessary to comply with any recommendations. The EPA or fire authority then carries out a final inspection/assessment and issues appropriate standard letter to the site operator.

All correspondence from the fire authority to the site operator should be copied to the Logistics Manager, BASIS Registration Ltd, St Monica’s House Business Centre, 39 Windmill Lane, Ashbourne, Derbyshire, DE6 1EY.

When complete approval is given to a store by the fire authority, it will remain in force until:

- the site occupier notifies that there has been material changes and/or structural alterations to the site;
- the site occupier changes;
- the site occupier or BASIS requests advice from the Fire Authority following completion of a Fire Risk Assessment;
- the Fire Authority undertakes any other site inspection (under relevant legislation) that might result in withdrawal or variation of the approval.

BASIS certification is annually however, annual inspection by the fire authority or EPA for re-certification is not necessary. BASIS will advise the relevant authorities of any concerns or significant departure from safety procedures or control measures which may call for re-inspection. The fire authority should advise BASIS of any new factor which may change and mean that the operators may have to reassess their facilities. Other agencies may be also interested in new sites or major modifications to existing sites. These can include; police, environmental health officers, local authority emergency planning officers, HSE, water supply companies, sewerage providers and landlords.

Fire Safety Considerations

In the case of BASIS registration of agrochemical stores, emphasis is placed upon the adequacy of structural, storage and management arrangements to mitigate the potentially damaging public health and environmental effects of fire or spillage.

The store should be constructed with materials giving a minimum fire resistance of 30 minutes, with soundly constructed impervious floors and walls and sealed floor joints. Wooden floors are not normally acceptable in a BASIS store.

A dedicated store should be roofed with material which can be breached by fire, or be equipped with alternative means of providing a ready release for heat and smoke in the event of fire.

External walls and internal compartment walls should provide at least 30 minutes fire resistance. When there is no intermediate ceiling of 30 minutes fire resistance, internal fire resistant walls should extend to the roof. The local building control or fire safety officer may be able to advise on the most appropriate and economical way of achieving this in individual stores. Roofing of chemical stores within a larger general store protects it from the effects of fire and firefighting activities in the main building, and in the event of the fire source being within the internal store, to contain it. Mini-containment systems should not be sited on wooden gantries or floors (which might be destroyed in a fire).

What is appropriate in terms of firefighting equipment and fire detection and alarm systems is primarily determined by the dimensions and use(s) of the premises, the equipment it contains, the physical and chemical properties of the substances likely to be present and the maximum number of persons that may be present.

As a general rule, crop protection chemicals should be kept apart from other materials. In addition, it is advisable that certain categories of crop protection chemicals should, as far as possible, be kept separate from other products within the group, notably highly flammable liquid products which should be afforded separate accommodation. The Yellow Code notes that pesticides labelled "**Flammable**" (flashpoint 21- 61°C) should be located separately in their own section of the store. Pesticides labelled "**Highly Flammable**" (flash point below 21°C) should be located in a store that is separated by a fire resisting structure from the remainder of the store. For small quantities this can be a fire-resisting cupboard or bin within the store. Such a store should comply with the requirements of **HSE Publications HSG 51 "The storage of flammable liquids in containers". Pesticides which are highly flammable, and those with an 'Explosive risk' should be included on the store Emergency Contingency Plan and identified.**

Stores intending to house pesticides in large (200 to 1000 litres) containers should have walls and a roof of a design likely to minimise the risk of such containers being projected outside the containment system in a fire (on those existing stores where alteration is not practicable, such drums should not be stored on high racks).

The adequacy of fire safety and contingency arrangements for fire and /or spillage should be assessed in conformity with legislative requirements, using the principles of risk assessment. In determining the adequacy of fire safety arrangements, reference should be made to the HM Government document 'Regulatory Reform (Fire Safety) Order 2005: a short guide to making your premises safe from fire and to relevant BSEN Standards.'

Where existing arrangements are considered inadequate or unsatisfactory, it is expected fire officers will act fairly and reasonably in exercising powers of enforcement, in accordance with established procedures which take account of the principles of good enforcement.

Liaison with the registrant, The fire authority and the EPA will be necessary to ensure effective contingency arrangements are in place. Environmental safety and site pollution control measures will be enforced by the local authority and/or EPA.

Fire Officer Considerations;

- Fire safety provisions and fire safety management arrangements should be in full compliance with the fire safety legislation applicable to the premises or workplace.
- Adequate consideration should be given to ensuring appropriate fire and spillage prevention measures are in place. However, anti-pollution measures are a matter for the EPA to assess and enforce.
- Particular attention should be paid to the standards of fire safety management and standard of general housekeeping within the premises.
- Adequate means of escape must be provided and maintained.
- Arrangements should be made for adequately illuminating all exit routes and fire points in the event of mains electrical failure.
- Appropriate firefighting equipment must be provided and maintained.
- Fire points¹ should be sited adjacent to each exit from the premises and be clearly indicated or identified in accordance with the Health & Safety (Safety Signs and Signals) Regulations, 1996.
- An appropriate means of giving warning in the event of fire must be provided.
- Appropriate fire safety notices, signs and symbols must be provided.
- The registrant² should consult with emergency services, EPA and the local authority regarding emergency plans for fire or spillage and in particular to agree, and action, appropriate site pollution control measures.
- In certain circumstances foam (or other risk-specific) fire fighting or spillage media may be appropriate, the provision and use of which should as far as practicable be pre-planned and sufficient quantities pre-arranged or otherwise made available on-site.
- Consideration must be given to the environmental pollution hazards associated with the use of fire fighting water or foams and contingency measures pre-agreed with the registrant and EPA for the use and containment of firefighting residues or run-off at BASIS registered sites.
- In large storage premises or those containing substantial quantities of substances which are potentially explosive, highly flammable or give rise to highly toxic combustion products, consideration should be given to agreeing a joint agency fire and spillage contingency plan and assigning an initial attendance that may include specialist FRS Hazardous Materials Environmental Protection Officer's (HMEPO) together with pollution control equipment.
- Where appropriate arrangements should be made to ensure compliance with the requirements of The Dangerous Substances (Notification & Marking of Sites) Regulations, particularly in respect of provision of access and location marking at BASIS registered sites.

¹ Fire points normally consist of a suitable fire extinguisher, break glass fire alarm call point, fire notice and any other equipment necessary for use in a fire or spillage emergency.

² It is recommended that registrants should liaise with insurers regarding the above risk management provisions.

Building Regulations

Prior to any building works being undertaken, the local authority planning department should be consulted and reference made to the Building Regulations 1991.

In England and Wales the Building Regulations 1991 (in Scotland the Building Standards [Scotland] Regulations 1991, in Northern Ireland the Building Regulations [Northern Ireland] 1994) apply to new buildings and to building work such as the erection, extension or material alteration of an existing building. They also apply where there is a material change of use.

The Regulations impose fire safety requirements covering matters such as:

- means of escape in case of fire;
- structural stability;
- fire-resistance of elements and structure;
- compartmentation to inhibit fire spread;
- reduction of spread of flame over surfaces of walls and ceilings;
- space separation between buildings to reduce the risk of fire spread from one building to another; and
- access for fire appliances and assistance to the fire brigade.

The standard of provision is related to the size and height of the building and the use to which it is put. In Scotland the Building Standards (Scotland) Regulations 1991 contain different requirements for the storage of materials that give rise to fire hazards. Where it is proposed to erect a new building, to carry out building work or to make a material change of use, application should be made to your local building control authority or other building approval body.

Assessing Site Sensitivity by the EPA

To conform to current regulations, best practice and the BASIS Scheme, operators must provide a containment capability for their on-site store. Containment is required to help prevent contamination of watercourses, ground water, drainage systems and land. It should be designed and constructed to retain spills, leaking containers or contaminated water that may be generated in the event of a fire within the store (so called **fire water**).

This store containment facility is known as **secondary containment** or a **bunded** area. The pesticide containers themselves provide **primary containment**. At some environmentally sensitive sites additional **tertiary containment** facilities may be needed.

The volume of the store's secondary containment is determined for each site, depending on the:

- environmental sensitivity of the area (especially the surface water and groundwater environment)
- drainage facilities serving the site, and
- maximum volume of product stored.

In the event of an accident or emergency, secondary containment should allow site operators adequate thinking time for the fire authority, EPAs and others to respond, and adequate time to warn downstream users, such as those who need to close river water intakes or take remedial action at a receiving sewage treatment works.

It is the role of the environmental protection officer (EPO) to assess site sensitivity and recommend the minimum appropriate volume of secondary containment capacity required for the store.

EPOs use a grading system to determine site sensitivity. Sites are graded A to C, where A is the most sensitive environmental location. However, there may be unusual or unique circumstances which mean that judgement is needed about the nature of the hazard and environmental risk.

Ideally, Category A sites should have the highest level of containment capability and additional tertiary containment facilities are likely to be necessary. Remember this is not a legal requirement but good practice. There may be room for compromise but, as with all potentially polluting sites or operations, certain site-specific measures may be required by the EPAs. A risk-based judgement is required at all sites.

EPAs may consider the whole of a specific catchment(s) as Category A for the purposes of the BASIS Scheme. This could include groundwater aquifer source protection zones or catchments as well as river catchments.

EPOs must inform the site operator and BASIS Registration Ltd of a site's sensitivity classification and the reasoning behind the decision. This will ensure that the concept of risk based approach and precautionary principle are understood by all parties.

In assessing site sensitivity, EPOs should always refer to their relevant groundwater protection principles, practice and guidance.

The Yellow Code has sections covering detailed requirements for the store structure and organisation of storage – please read the Yellow Code in conjunction with these notes.

Secondary containment or bunding

The intention of the store's secondary containment capacity is to provide adequate thinking and response time for Store Operator, the fire authorities and EPA to deal with the situation, for example to arrange water intakes to be closed and to warn other river users. Total containment of all firewater may not be practicable, hence the concept of thinking/reaction time. The "Yellow Code" **suggests** a retention capacity equal to 110% of stored product plus an additional 75% in environmentally sensitive situations. This is guidance rather than law and BASIS consider these volumes as a target rather than a rigid requirement. However, the EPA can use their enforcement powers where they consider the risk sufficiently high to insist on a certain retention capacity, such as by using Anti-Pollution Works Notices.

The pesticide store should be constructed with secondary containment or bunding. This provides short-term, emergency containment for spills and fire-fighting water, with a capacity of either 110% or 185% (or greater) of the contents of the store, as determined by the site sensitivity category.

Removable bunding for secondary containment is **not** acceptable; however temporary, removable bunding can provide **additional** capacity over and above the required minimum store containment capacity, for short periods only.

The height of the store's secondary containment should be calculated to suit the circumstances. **All** access points (for vehicles and pedestrians) must be sloped, stepped or ramped as appropriate to maintain an effective height for the secondary containment. An alternative is to construct the store with a sunken floor and ramped access. Where stores have sloping floors the containment height may be varied to produce the necessary containment capacity. The HSE recommend that where containment involves the use of ramps they should have a slope not exceeding 1 in 12 for safe fork-lift truck operation. See Section 3.6 and Appendix 6 on how to calculate containment volume.

The walls of the storage area should be **impermeable** to a minimum of the required height of the secondary containment. This is to prevent leakage of pesticide or contaminated water.

Storage area floors should preferably be made of concrete and be impermeable across the secondary containment. Floors should be treated with a floor sealant compound which is resistant to chemical penetration, such as epoxy resin. There should be no escape of liquids from the store into the fibre of the floor, building or ground beneath. Floors should also have an anti-slip surface, which is easily cleaned and resistant to chemical attack.

Where walls and floors are laid in stages with wooden/grouted or other types of joints, these joints should also be sealed. Sealant should ensure that all chemical spills and fire water remain on the

surface and within the secondary containment. Suitable absorbent materials should then be used to deal with any spills.

Store operators must have a maintenance programme to regularly check that their secondary containment is impermeable. Surface, sealants and joints can all degrade over time and will require action to maintain effectiveness.

Waste Management

As with any site, correct handling, storing and disposing of waste is necessary to avoid endangering human health or harm to the environment. Site operators should aim to reduce the amount of waste produced in the first place, according to the waste hierarchy. Disposal of waste is expensive and should be the last resort. Stores should aim to prevent waste in the first place, then if that is not possible, to reuse and recycle before considering recovery and disposal. Store keepers should be encouraged to get advice on waste minimisation from WRAP. <http://www.wrap.org.uk/>

Hazardous / special waste is likely to be generated in the event of a spill or incident at a pesticide store because many pesticides are hazardous. Hazardous / special wastes are the most damaging to human health and to the environment. More information on hazardous / special wastes and how to deal with them legally is available from the EPA websites.

Site operators must follow the 'duty of care' which means that all reasonable steps must be taken to keep waste safe. The first responsibility is to prevent the waste escaping from the customer's control and prevent it from causing pollution or harming anyone. When the waste is passed to someone else the customer must ensure that the person they are passing it to be authorised to take it, for example a registered waste carrier or a permitted site. They must also be sure they can transport, recycle or dispose of it safely.

They must also make sure the waste is described in writing and a transfer note is filled in and signed by both persons involved in the transfer. The transfer note must include certain specific information and both parties involved in the transfer should keep a copy for two years. Hazardous / special waste requires a more complex transfer note, called a consignment note, and for additional records to be kept. More information is available on the EPA websites.

Hazardous/special wastes must be stored separately from non-hazardous wastes, and different types of hazardous wastes must not be combined. If wastes are regularly being brought back to the store then the site operator may require permission from the EPA.

Any skips used for general materials, such as office wastes, should be clearly marked to indicate what materials they can and cannot be used for. It is preferable to ensure skips and other storage areas are under cover to prevent water ingress.

General inspections may reveal other waste management matters that are outside the current jurisdiction of the BASIS scheme.

Contingency and Incident Planning

Store operators should have a contingency plan for in-store and on-site spillages and fires, which covers the transporting routes from the unloading area to the store and from the store to working areas. Employees should be trained in the correct response to incidents, as described in the BASIS Contingency Planning and Procedures document. The EPA Pollution "Prevention Guidance Note 21 Pollution Incident Response Planning" and "Pollution Prevention Pays – Getting Your Site Right" will also be useful.

The contingency plan should include detailed plans of the buildings and drainage systems. A copy should be kept away from the main building, and copies provided for the police, EPA and fire authorities in the event of incident.

A current/typical stock list of chemicals stored and the maximum quantities likely to be held at any one time should be available, away from the main building, and copies should be provided for the police, EPA and fire authorities.

The contingency plan should include contact details of a suitable waste disposal contractor able to deal with emergency disposal operations. Store operators must comply with the waste duty of care, even during or after an incident. Waste material must be taken to a site with a relevant waste permit for dealing with those materials. Consideration would need to be given to on-site storage if a nearby waste disposal site is not accessible 24 hours a day.

Storekeepers should provide the fire authority, EPA, police and BASIS with the name, address and telephone number of an out-of-hours contact.

On new sites, drainage systems outside the store containment areas should be provided with a cut-off valve for use in the event of fire water exceeding the capacity of the containment system. These valves should be clearly identified both on the site drainage plans and on the ground. Care should be taken to ensure, if possible, that provision of a cut-off valve would not result in extensive soil contamination when used. This is because the fire water will pool on-site if it cannot drain away. Where a high risk loading area is provided with emergency closure valves, providing a canopy for the loading areas may help to reduce rainwater additions to this area.

On existing sites, if valves cannot be installed, drain bungs or seals should be available in safe storage away from the main store and their whereabouts should be clearly marked and the position shown on the site plan. However it may be advisable to examine other ways of providing pre-planned containment on or near the site on an individual site by site basis.

Drain gully covers, sandbags (made of durable material) and absorbent materials should be held in safe storage away from the main store (in addition to any absorbents held within the store for 'routine' purposes).

Sites Designated as COMAH Sites

Sites that are covered by the COMAH Regulations will need to consider contingency planning in more detail as it is a legislative requirement under these regulations.

Every operator of an establishment covered by the COMAH regulations must prepare an emergency plan.

The objectives of that plan are;

- to contain and control incidents so as to minimize the effects and limit the damage to persons, environment and property;
- to implement the measures necessary to protect persons and the environment from the effects of major incidents;
- to communicate the necessary information to the public, the emergency services and the other relevant authorities in the area;
- to provide for the restoration and clean-up of the environment following a major incident.

Information must be included in the plan such that it complies with Part 2 of Schedule 5 referred to in Regulations 9 and 10 of Part 4 of the Control of Major Accidents Hazards Regulations 1999 (as amended).

COMAH sites may need additional letters of approval from the local Emergency Planning Officer and/or HSE.

Other agencies also have an interest in contingency planning. These can include; police, environmental health officers, local authority emergency planning officers, HSE, water supply companies, sewerage providers and landlords.