

Introduction

This report explains how the current working procedures on the farm can be improved to raise the standards of health, safety and welfare for all employees, contractors and visitors on the workplace premises.

It outlines a safety management system and risk controls in connection with farmwork, control of dangerous substances and certain types of emissions into the atmosphere.

The best practice recommendations that are listed here attempt to be reasonably practicable, sustainably compliant with UK legislation and support a successful farm enterprise.

Overview of current health and safety standards

Referring to your photographs and accompanying text, I can pinpoint some features and work processes in your organisation which need managing. Where possible, improvements have been listed in Document 2 - the risk assessment [What additional controls are necessary?] We can look at these later in the report {page } and see why they are necessary to achieve legal compliance and to protect your workers, contractors and all visitors on the farm premises.

1. 25% of fatal injuries to agricultural workers are caused by moving or overturning vehicles and being struck by farm machinery. Photos 3,4,5 and 24 show older tractors parked at different locations across the farm. Maneuvering these vehicles would need a safe use of mirrors, reversing cameras and alarm kits. Adding these features to them does not appear to have been included in servicing. All attachments, such as bale spikes would be removed or folded safely to avoid impact.



Photo 55 and the text indicate the presence of OHPLs which “run across most fields” and are a real hazard to farm vehicles, especially telehandlers. At present there is no mapping of safe routes or contingency plans to relocate the power lines. Even 400V distribution lines can pack a devastating charge of electricity when making contact

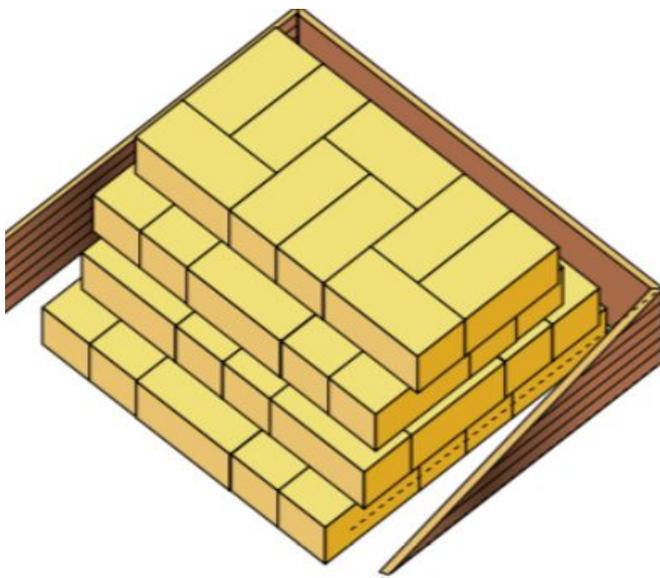
with a metal framed farm vehicle or the attachments (pesticide sprayer or telehandler boom).



What can happen if you come into contact with an OHPL

Traffic management and monitoring farm vehicle movement must be ongoing especially during times of school visits or when outside contractors are working on site.

2. Managing the suitable housing and moving of hay/ straw bales is a vital duty to reduce the risks of falls from height, fires, and vermin infestations. Photographs 7,8 and 13 indicate some restacking strategy is needed. Please see the model image showing an interlocking pattern with wide base providing support and strength.



3. Across the farm properties and buildings there can be seen a range of chemicals, both flammable and non-flammable [see photos 9-12, 20, 23, 29-39, 41, 48-50, 54]. The farm work undertaken here relies on an extensive use of chemicals. This includes:

- refuelling and distribution of diesel for various farm vehicles,

- LPG for gas heating,
 - oxy-acetylene for metal repairs,
 - dairy cleaning processes,
 - spraying pesticides and herbicides,
 - removal of vermin
 - engine oils lubricants, paints for auto body work and MVR.
4. On Page 13 manual handling is noted as being “a big part of the job” on the farm. In the UK alone, 12% of all reported non fatal injuries to farm workers are attributed to lifting and carrying tasks. This is detailed in Document 2 as one of the 5 activities contributing the most risk to the health and safety of those working on the farm estate. I have included in the list of manual handling operations:
- carrying/ moving small bales
 - moving molasses drums 200-300kg containing diesel
 - gas heaters and LPG cylinders
 - oxy-acetylene set
 - moving tyres in MVR enclosure
 - lifting car engines out for repair work
5. There is a reference to use of a ladder on Page 30 and ladders are shown in the grain store as detailed in the Working at Height risk assessment. As there are several tasks requiring the use of specific access equipment, arrangements need to be put in place to ensure these are adequate and suitable for the job.
- It is clear from your photographs that more ladders and some type of aerial work platform (AWP) need to be stored safely for the use of employees and contractors. [Integrated work platforms can be hired affordably from local suppliers].

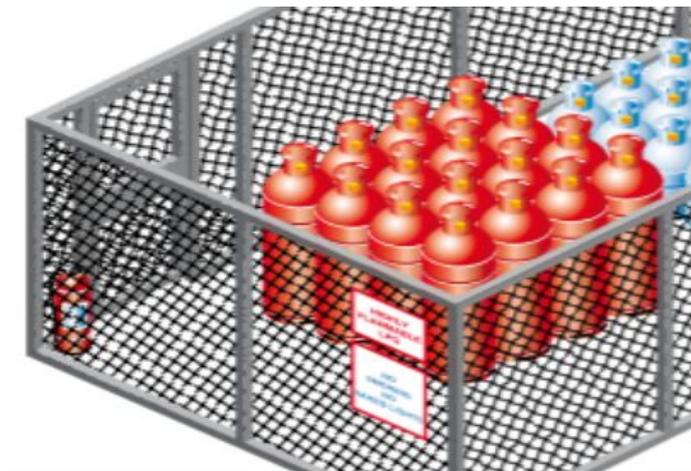




6. There are few references or photographs of the farm showing evidence of fire fighting/ detection equipment on site. This has been covered in Document 2 in some detail with reference to flammable substances and housekeeping, and later in this guidance report on pages 14 and 17.

Photos 14 and 15 show a distressed electrical board installation which could benefit from testing by a competent trained person. Poorly maintained circuits cause fires and act as an ignition source to farm equipment and supplies.

Photos 20 and 21 show the storeroom with rubbish and combustibles accumulated and an LPG bottle which needs relocating with other LPG stored fuels.



A single ignition source could start an explosive fire here so removal of all combustibles is essential.

Photos 45-47 we see hand held power tools and oil kept on tables above combustible materials. The bench grinder could produce a spark as could the arc welder setting off an atmospheric explosion with the buildup of dust on the bench. All hot works should be replaced by cold cutting and waste combustible materials

removed from the workshop. Electric portable tools can be inspected to ensure they are integral for safe use by a trained competent worker.

Photos 48-52 in the MVR enclosure there is a massive amount of clutter both inside and outside which creates fuel and a potential chain reaction for fires. The presence of flammable fluids and an air receiver adds to the explosive nature of any fire which could develop there.

7. Signs and symbols are missing from many 'hot spots' across the farm properties which we will come to later in this report.

With activities such as school visits and additional employees arriving, signs which are updated to include changes in access, use, raise awareness, and save lives.



Safety Management Arrangements

A. Prepare a health and safety policy:

This describes how you will manage the health and safety in your daily running of the farm stating who does what, when and how. This is then posted where your employees can see it.

- State your general approach to health and safety on the farm, commitment to managing it and sign it.
- List the names of your employees who have a specific duty for health and safety.
- Describe the systems, controls and procedures in place for ensuring health and safety standards.
- Post the risk assessments when you are employing 5 workers or more and check they all understand the hazards of their work.
- Include a commitment to reviewing the hazards when new tasks are brought in.
- Consult with your workers about changes in working procedures, ways of working, types of equipment. Plan work with their cooperation so you all know what the procedures and goals are. A good reference for Consulting employees on health and safety is a 6 page leaflet from www.hse.gov.uk INDG232(rev2).

B. Organise your employees and contractors

- Plan health and safety training relevant to their work.
- Emergency evacuation procedures must be posted in the event of fire, accidents, incidents and an incident report log must be kept.
- Welfare facilities are a legal requirement for all workers on site.
- Agree to have all workers report in with anything on the farm which looks suspicious, unsafe or unfamiliar. *Equip each one with a mobile phone which can take photos round the farm.*
- Encourage them to ask for assistance or more details about their work.
- Appoint a trained and competent employee as a first aid appointed person to oversee the first aid equipment and to contact the emergency services when needed.
- If the tractors travel out to remote corners of the estate make sure your employees carry mobile phones and carry a first aid kit in their vehicle. *All employees must wear high-viz clothing to BS EN 471.*
- Make sure all workers have signed the health and safety farm policy and they understand the consequences of poor work practices. (If workers are disabled, illiterate or don't speak English help them to interpret safety information so they can apply it to their work).
- Agree on reasonable work breaks and use of welfare facilities so the longer hours don't push workers beyond their limits of stress.

First-aid signs



First-aid poster



Stretcher



Eyewash



Safety shower



Emergency telephone
for first aid or escape

- Keep an accident/ incident book at each main work building for all staff to sign and report on accidents, incidents or near misses.
- Report any incident which is serious or fatal to the Incident Contact Centre 0845 300 9923 (M-F 8.30am to 5.00pm) RIDDOR reports are explained on www.hse.gov.uk/riddor INDG453(rev1)

C. Set standards and learn from experience

- Check if your management standards in health and safety are working with frequent monitoring of the risk control measures and the farm activities.
- Weekly inspections of farm property, equipment and installations, and spot checking to see how your staff are working. (Prevention is more effective, time saving and cheaper than cures!)
- Investigate incidents, including near misses, to find root causes and how they can be managed.
- Always refer to manufacturers' instructions/ safety data sheets before use or operation.
- Encourage all employees and contractors to audit their own duties and to raise the alert if a coworker isn't behaving responsibly.
- Check how well you are complying with the law eg BS and EN for machinery guarding, storage of flammables, working at height.
- Understand the causes of occupational ill-health, injuries and incidents on your farm and how they relate to your undertakings and equipment.
- Look for gaps in your safety arrangements such as farm machinery checks or vehicle servicing.
- Promote a proactive health and safety culture and set best practice standards as the example.
- Revise your risk assessments for each activity if people, equipment or method of working changes.
- DEFRA rural services helpline: 03000 200 301
- Sign email for updates Environment Agency: 03708 506 506

Recommended Controls for the 5 Farm Activities

Referring to Document 2 - Risk Assessment, I have detailed here further risk control measures which will improve the health, safety and welfare standards on the farm and meet legal compliance. These are considered reasonably practicable in the context of the size, demands, resources and present condition of this farming business.

Using the hierarchy of control to prioritise, we aim to

- ❖ eliminate the activity (hazard) if possible,
- ❖ substitute it with a safer/ healthier alternative,
- ❖ put in engineering/ practical controls,
- ❖ add signage/ training/ record logs, administrative control measures
- ❖ use personal protection equipment, PPE.

1. Moving large, unwieldy equipment or commodities about the farm.

37% of reported ill-health work-related cases are due to manual handling jobs. We try to avoid direct handling where possible. Any load greater than 25kg and awkward to grasp should be assessed. This applies to gas cylinders eg LPG, oxygen bottles, drums and straw or hay bales.

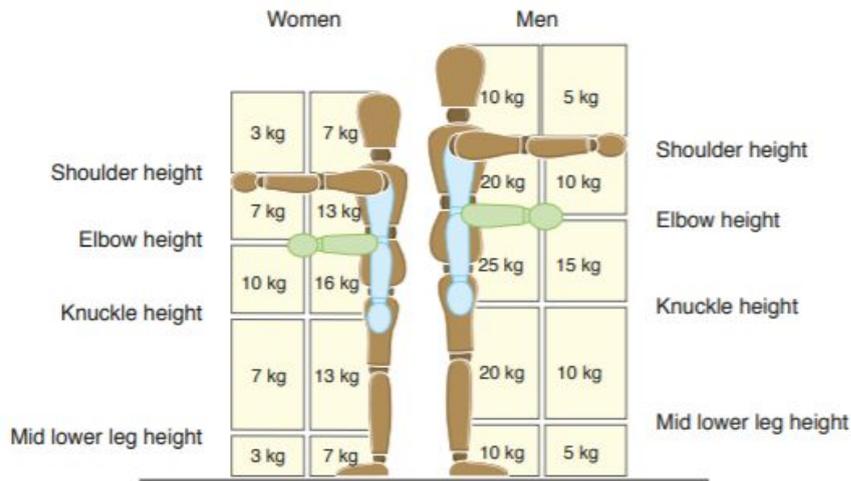


Figure 1 Lifting and lowering risk filter

This shows the weight limits which are safe for lifting from different heights. The further away the load is from the waist the more strain it causes on the worker.

Handling aids can be used for bale work, if you aren't fully mechanised with bale elevators, forklift front end tractors, those with fore-end loaders, etc. See page 8 of this report.

Correct RPE and PPE must be worn for all manual handling operations with straw and hay as set out in Document 2 risk assessment.

Manual handling

Careful planning can reduce the risk of health problems associated with lifting and carrying:

- Arrange the work to avoid hazardous manual handling where you can, eg switch to a big bale system to fully mechanise the task.
- Where manual handling is necessary, reduce the risks by using mechanical handling aids and other equipment, eg bale elevators, and handling aids such as bale trolleys, pitchforks or bale-hooks.
- Ensure that people carrying out the work are physically capable and have been properly trained in manual handling techniques.

Any manual handling undertaken by workers must be assessed by:

- the load, (weight, shape, contents:hazardous?, SDS, fragility, etc)
- who is moving it, (their physique, gender, age, etc.)
- what type of move is needed and
- the type of area the load is being moved from and to.

Guidance on all farmwork activities can be found on www.hse.gov.uk This manual handling article above is found under **Safe working with bales in agriculture INDG125** and is a

detailed 10-page leaflet for farmers and their workers. *(The references you may find helpful are listed at the end of the report).*

Your telehandler and tractor-trailer combination work well for transporting bales provided the vehicles are compliant with service checks and are driven by a trained employee. They must not be driven within 10m of any overhead power lines.

An important feature of tractors (especially older models) is to be equipped with reversing cameras and alarms which sound when put into reverse gear. Renewing the mirrors with wider peripheral cover is good practice, in light of the number of deaths on farms due to people being struck by moving vehicles. The Farm Vehicle Health Check scheme can help you to manage vehicle maintenance.

Dust and spores produced by moving the bales present an immediate health hazard unless PPE is used: a respirator to EN149 with FFP2, overalls, gloves and glasses are recommended. As seen in the risk assessment serious lung conditions can result from breathing in dusts and particles from bale work.

Rats and other rodent vermin are a hazard associated with barns storing hay and straw. Non chemical elimination of vermin can be effectively carried out by a troop or even a single farm terrier. Ratting terriers, most recently in the news, the Suffolk and Norfolk Rat Pack are known for their rodent control expertise!

It's a good plan to issue abrasion resistant farming gloves (EN 388 Cut Level C) to your employees as they will be protected from any rat bites (the ones that got away!). This grade of glove can be used against cuts and bruises in handling bales as well as other sharp edged items round the farm.

21% of agricultural workers' injuries are from slips, trips and falls while working. Farmyards are full of uneven trip ledges, loose cables, bale string and slippery substances. By putting in some time once of week to cover the mud and oil with sand and smooth out the areas most used by staff is time well spent. Making the repaired patches clearly visible with good yard lighting sends a clear message to the workers that you care and are setting an example. Having staff report any new potholes or trip hazards every week is good practice and promotes cooperative support for health and safety standards that you can feel secure with.

Moving gas cylinders, oxy acetylene sets and oxygen bottles is best done with reliable aids, trolleys with straps or chains to support bottles in an upright position. For more than 2 or 3 cylinders, trailer-tractors can be used.

A 3-sided trolley is the optimal handling aid for moving propane cylinders if they are wheeled by a competent employee who has completed suitable manual handling training certification.



2. Children visits - Playing on bales, trailer rides, using facilities, climbing

In all activities with school children on a farm, they must receive a health and safety talk before starting the visit. Teachers accompanying them must stay with the group on trailer rides, walking round and do a headcount before moving on to the next building. High-visibility tunics can be provided by their schools.

Falls from height causes 16% of fatal injuries in the agricultural sector to workers. It is a major hazard for visiting school children on farms if they play on hay bales, use ladders or wall rungs which are unsafe, or climb onto any farm machinery.

Even the trailer used for rides around the farm can be a hazard for falls if the seating is not facing outwards or forwards. The seats should be made of sturdy wood or metal frame secured to the floor with mesh side to prevent smaller children falling through the side bars.

Permanent climbing structures such as ladders, wall rungs and stationary vehicles could be cordoned off during a school visit.

Additional warning signs are an affordable safeguard to areas such as the pig slurry pit, the cow slurry collector, the dairy, the grain store and the pig feed silo.



- ★ Infections are a recurring hazard on farm sites and welfare facilities (including the visitors' washroom and kitchens) must be kept sanitised between visits. Disposable paper towels are better than cloth towels as the microbes from skin can sit on cloth towels for the next person.
- ★ Disposable cups and plates should be used by visitors and children unless there is a dishwasher available.
- ★ Be prepared to offer dust masks for visitors if they are touring areas near straw, hay and livestock.
- ★ If the weekly inspection of ground surfaces has gone to plan then additional checks before visitors take a trip round shouldn't be necessary.

- ★ No smoking signs must be visible especially near the diesel tanks and the propane gas store. All chemicals must be locked away safely before farm tours begin.



Flammable material or high temperature*

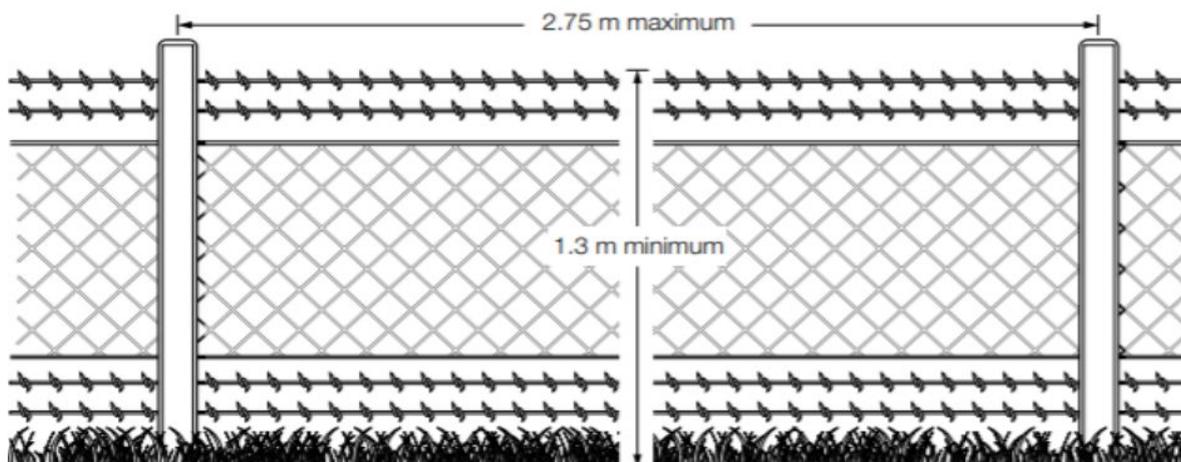


Explosive material



Toxic material

- ★ Fire extinguishers of the dry powder and foam variety should be in areas where visitors are likely to meet up, eg kitchen, washroom facilities, education room.
- ★ The pig slurry pit needs reinforced/ repaired mesh fencing to a height of 1.3m and bright coloured paint on the top of corner posts helps to alert visitors in fading light conditions. Having motion sensor lighting in this area would be good practice. [An added layer of small gauge mesh across the top would protect birds from flying into it].



3. Working at height - Climbing bales, ladders, silo entry, roof work, overhead power lines

Assess the repair work for the ACM roofs to see **whether the job is avoidable** or can be completed by hired specialist contractors with their own equipment.

Plan to do as much of the work as possible from ground level.

Non licensed asbestos removal requires special training and equipment, and full PPE as detailed in A14 Asbestos essentials and **em6**.

If this work needs immediate attention then suitable ladders and/or an integral work platform such as a scissor lift, provide safe access to fragile roofs. Safety harnesses,

lanyards, soft landing inflatable surfaces or safety nets can be used with the correct training and under supervision.

Ladders and AWP's should only be used by employees or contractors who have been trained and are competent to work at height.

Make sure the workers understand the risks of working on roofs and the consequences of falling from heights above 2 metres.

What enforcement action might be taken by HSE?

Working on fragile surfaces is extremely dangerous and the precautions are well established.

The law says you must organise and plan all roof work so it is carried out safely. If inspectors encounter failure to control risk, work will be prohibited and prosecution may follow.

Examples of safe systems of work

Safe systems for replacing roof sheets and roof lights from underneath



Removing hook bolts from existing sheet



Locating replacement sheet

Ladders and handlings aids should be used when stacking or destacking bales. Suitable channels need to be on either side of an interlocking stack with a stable base to allow for trailers, tractors and other equipment to access the stacks. Put a No Entry sign at the entrance of the barn while work is ongoing.

Access to the floors in the grain store is a *working at height* job due to the chain of ladders installed. All ladders must reach one metre beyond the level of the floor and inspected at every visit or at least weekly.

Due to grain dust and spores, correct respirator masks must be worn to BS EN 149 with FFP2.

Holes in the floor should be repaired or covered safely until a competent person can make the repairs.

Ensure the lighting is sufficient to compensate for poor weather conditions.

If there are no windows or openings treat it as a confined space and apply the same precautions such as checking the oxygen levels and having a rescue plan in place to prevent workers being injured by asphyxiation.

Operating farm vehicles with boom sprayers or loaded with bales could bring the driver into contact with the OHPLs across the farmland.

Check with your DNO and see if they can send out a map of the routes showing the power lines. Ask if there are any plans to divert or put the power lines underground. Avoid coming within 10m of any power line with any machinery or tractors.

4. Motor vehicle repair shop - Paint spraying, engine repairs, tyre care

This activity presents many hazards and the controls suggested here may fall short of compliance with the standards required of MVRs. Depending on the revenue brought in by this part of the business, it may be necessary to forego this undertaking and replace it with a different activity.

PPE must be worn by all employees working on the spray painting of cars and the repair work. The paint SDS states RPE air-fed breathing apparatus should be used as the ingredients are flammable and the vapour should not be inhaled. It is also harmful to the skin and eyes. Nitrile gloves, goggles, cotton overalls and shoe covers should be worn for all engine work when contact is made with oils and lubricants. These can be flammable even when left as residue on cloth or paper towels.



Eye protection must be worn



Respiratory equipment must be worn

Paint containers should be resealed and stored away from other solvents and chemicals. Non workers should not have access to this enclosure and appropriate signs must be posted at the entrance.



- (i) **prohibition sign** – a sign prohibiting behaviour likely to increase or cause danger (eg 'no access for unauthorised persons')

If the paint, oils or solvents accidentally get into the drains then you will need to contact the Environment Agency to report an environmental incident.

Manual handling in working with tyres can present challenges without the correct aids.



Figure 36 Wheel lifter



Figure 37 Tyre-changing machine with integrated wheel lift

The hoists for lifting engines can be sourced inexpensively from suppliers and online dealers depending on how often your mechanics are using it. Certainly the present way, using bale spikes, a frayed sling attached to a tractor, is not safe or effective. It is an improper use of a farm vehicle.

The air receiver is a pressure system vessel and has to be maintained safely and inspected by a competent person to ensure it does not fail.

A Written Scheme of Examination should be submitted to your insurance provider, every 5 years, and kept in your log book for inspections of farm machinery and equipment. Air receivers can explode seriously injuring or killing persons nearby if corrosion builds up and it is not used or stored safely.

In the photos you provided, the air receiver is surrounded by clutter and exposed to extreme temperatures if it is close to the gas heater. A half day's clear up is all that it would take to make a safe environment.

Slips, trips and falls here are easy to correct with some basic housekeeping measures. Loose cables, hoses and wires can all be kept out of the path of workers. Oil spills, solvents etc. on the floor must be cleaned up with a sorbent spill kit, sand or earth then disposed of as hazardous waste. Hand tools and fluid cans can be stored neatly on or above the worktops. All solvents, paints and oils must be kept in a cupboard with a suitable warning sign visible.



Separate fire detection and fire fighting equipment must be kept in the MVR enclosure as it is some way from the main buildings. It is recommended that a dry

powder and/ or foam extinguisher must be at hand when working with flammables and a call point to sound the alarm (if you have a fire alarm panel servicing zones across the farm buildings).

Examples from BS EN ISO 7010



Fire extinguisher



Fire alarm

Details about the gas heater, storage of chemicals, hot work, and fire action notices have been included on the risk assessment Document 2 sheets.

Oil spills and used engine oil must be treated as hazardous substances and PPE worn as for all motor engine work: nitrile gloves, goggles and overalls.

All container drums with used engine oils must be marked with a flammables warning sign.

5. Storage and transport of flammable fluids

Most of the detailed information on the diesel tanks can be found on the risk assessment in the ***What Additional Controls are Necessary?*** column.

After a bund or second containment has been installed the warning signs can be added with a locking system.

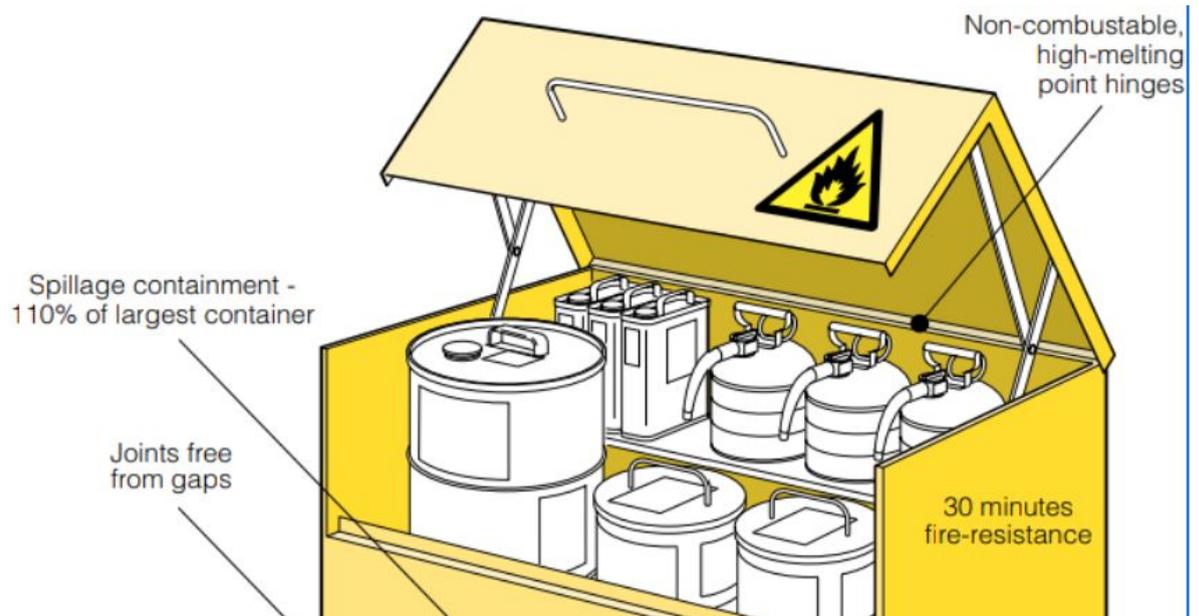
A motion sensor light above the tanks would help with security and to emphasise the hazardous nature of the contents. If you have had problems with intruders then sourcing a CCTV setup might be worth looking at. There are some good multi-zone camera installation kits available. It is not a requirement to be legally compliant with your duties as an occupier/owner however. Check with your insurer to see if it reduces your premiums.

Make contact with your local fire service to check that they have your farm on their radar as a diesel store location even though it is under 1500Litres. This is better arranged before an incident occurs.

Any spills of diesel outside the bund need to be treated the same way as oils spills: a sorbent spill kit and prevent running off into the watercourse and drains. The same procedure must be implemented by contacting the Environment Agency.

Avoid decanting diesel into drums where possible - bring the vehicles, machinery and equipment to the tanks. (Keep the area clear for emergency vehicles and the diesel delivery tanker as well).

If small amounts must be kept in drums then a metal bin with fire resistant sides is best as seen here:



Note the flammable warning sign on the storage bin.

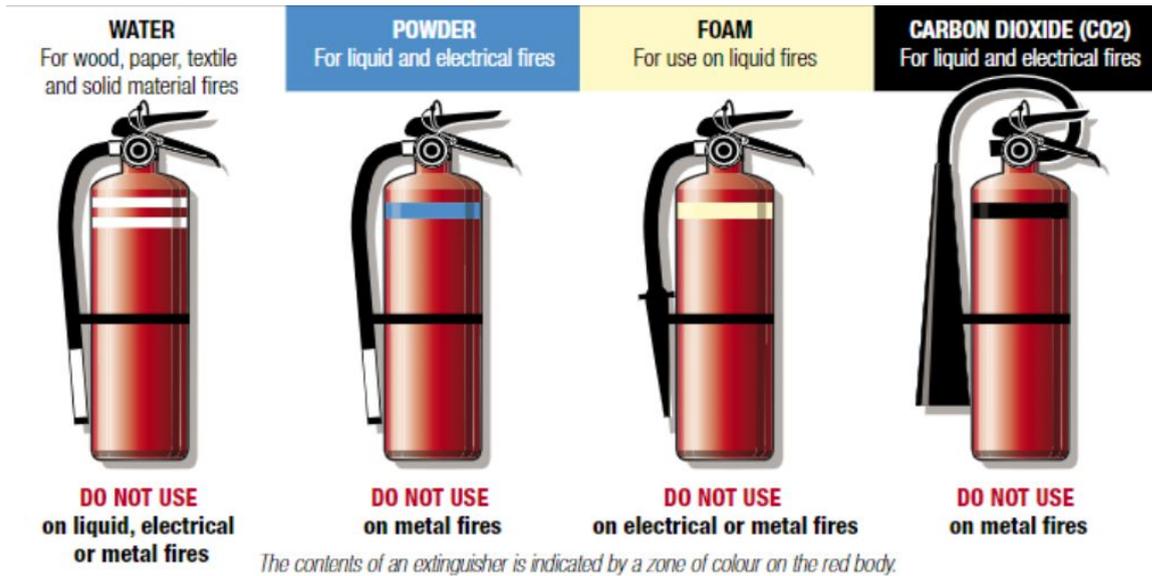
All propane cylinders and other flammable gases in pressure systems must be stored outside on hard even surfaces (concrete). The valves must be turned off and checked for leaks using a detection spray from suppliers. Watch for signs of frost around the top of the cylinders. Metal meshed or brick enclosures are recommended for gas cylinders so they remain in an upright position, padlocked together and separate from other types of flammable fluids.

Transporting gas cylinders requires use of a 3 sided wheeled trolley with support strap for use by a trained worker. Larger amounts moving across the farm would need a trailer with metal sides and a driver of the tractor with training in The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations. It is unlikely that on private property your workers would be held to the same standard as drivers transporting flammable gas cylinders on public roads.

A fire contingency plan is essential for all parts of the farm and for all activities, 24/7 in fact. An annual fire risk assessment is required by most farm insurance companies and is well worth the training. It can be carried out by you or a trained, competent fire warden. Training can be accessed online.

All staff must be trained to respond to fire outbreaks and signage should be visible in all buildings showing the assembly point and routes to follow for evacuation.

Reel hoses are no longer suggested but dry powder, CO2 and foam extinguishers can be placed in buildings considered at the most risk of fires.



75 If necessary, you must also co-operate and co-ordinate with other responsible people who use any part of the site/premises.

76 Your checklist:

- Have your staff received any fire safety training?
- Are employees aware of specific tasks if there is a fire?
- Are you maintaining a record of training sessions?
- Do you carry out joint training and fire drills in multi-occupied buildings?
- If you use or store hazardous or explosive substances have your staff received appropriate training?
- Have you carried out a fire drill recently?

A multi zone fire alarm system with call points at each building used by employees is a good investment with sounders and beacons to BS 5839 allowing full range of sound penetration across the estate.

Automatic sprinkler systems are great responders to fire in contained buildings (eg the grain store) although not mandatory for sustaining compliance as an employer.

Emergency lighting with in-built signs to exit are a useful accessory with a good supply of rechargeable batteries! It's a good reminder to employees which exits need to be kept clear of clutter.

For complete lists of necessary fire safety equipment check with your insurer and www.gov.uk under Fire safety guidance and Fire safety risk assessment.

It is time well spent to consult with your local fire department as well to see what they recommend for a farm with several buildings and livestock.

Useful references for further advice

www.hse.gov.uk

- ❑ Farmwise HSG270 Your essential guide to health and safety in agriculture
- ❑ INDG125 Safe working with bales in agriculture
- ❑ HSG51 Storage of flammable liquids in containers
- ❑ HSG140 Safe use and handling of flammable liquids
- ❑ HSG176 Storage of flammable liquids in tanks
- ❑ INDG261 (rev2) Pressure systems
- ❑ INDG401 Working at height
- ❑ AIS 9 (rev2) Managing slurry on farms
- ❑ L64 (3rd Ed.) 2015 Safety signs and signals
- ❑ INDG143(rev4) Manual handling at work
- ❑ AIS 8(rev3) Working safely near OHPLs

The Farm Vehicle Health Check scheme

www.nfuonline.com/Our-work/Farm-safety/Guidance/Farm-Vehicle-Health-Check-Scheme/

Children and public safety

www.hse.gov.uk/agriculture/topics/children

Safe workplace transport - agricultural

www.hse.gov.uk/agriculture/topics/machinery/farm-vehicles-1

Department for Environment, Food & Rural Affairs

Environment Agency

www.gov.uk/organisations/