

FIRE SAFETY GUIDE TO POULTRY FARMING



This document is designed to assist NFU Mutual customers in managing fire risks associated with poultry farming



NFU Mutual
RISK MANAGEMENT SERVICES

INTRODUCTION

Each year there are many fires on poultry farms with causes including, but not limited to: electrical faults, fire in machinery, heaters/brooders, heat treatment of poultry floors and arson.

The following guide aims to provide information on the main causes of fire along with useful guidance on reducing the potential for ignition and fire spread within poultry livestock buildings.

FIRE RISK ASSESSMENT

A fire risk assessment to be undertaken to identify and evaluate the potential for a serious fire at your premises. Responsibility for the fire risk assessment rests with occupiers and owners of business premises and should include: the construction of the premises, working practices within, fire inception hazards, likely fire spread potential and the suitability and standard of fire protections including: your fire alarm, fire doors, emergency lighting, escape signage

and fire extinguishing appliances. The risk assessment to be carried out by a suitably competent person and any necessary control measures carried out to reduce the risk and effects of fire.

We recommend the local Fire & Rescue Service are invited to visit the farm to assess water sources and familiarise themselves with the layout and the location of poultry buildings.

COMBUSTIBLE COMPOSITE PANELS

Combustible composite insulated panels/linings increase the fire risk, therefore any new poultry buildings erected on site to be constructed of non-combustible (mineral wool) panels or those approved by the Loss Prevention Certification Board (LPCB) achieving LPS 1181: Part 1 EXT A30 for external envelopes and LPS 1181: Part 2 INT-2 for internal areas, as a minimum standard.

Where combustible composite panels are present these must be managed in line with the following guidance:

1. Hot flues and ducting to not pass through panels. Where this is unavoidable, insulated sleeving or dual skin flues to be used with a minimum fire resistance of 60 minutes. Any gaps between the sleeve and the panel to be filled with non-combustible material, however non-approved silicone mastics and expanded foam sealants must not be used;
2. Electrical cables or wiring attached or passing through panels to be fire resistant or enclosed within a non-combustible

insulating sleeve or conduit;

3. Welding or cutting equipment, blow lamps, blow torches or similar equipment not to be used either for repairs to combustible composite panels or within 3m of them unless they are protected by non-combustible fire blankets, drapes or screens and subject to a strict "hot work permit" system incorporating a strict 60 minutes post hot works fire watch to ensure ignition risks are minimised;
4. Where composite panels are present all panels to be inspected at least weekly and damaged panels or facings replaced or repaired. Fixings or joints to be in good condition and tightly secured. A written log of inspections and remedial action to be maintained.

Further guidance can be found in the Fire Safety Guide for Combustible Composite Insulated Panels and Fire Safety Guide to Hot Works.

ELECTRICAL INSTALLATIONS

The electrical installation for buildings containing poultry, other birds or eggs to be checked at least once in every period of 16 months in accordance with 'The NFU Mutual Poultry Farm Checklist', by a qualified electrician. All remedial work recommended by the electrician must be undertaken promptly.

All extraction systems including flues, extraction motors, fans and the entire length of any associated ducting to be subject to a formal maintenance programme, which includes a thorough clean once every 16 months by a competent person.

New installation works and electrical inspection testing of the fixed installation to be undertaken in accordance with the current edition of **BS7671 Requirements for Electrical Installations. IET Wiring Regulations**. The frequency of electrical inspection of the premises to be every 3 years in accordance with the recommendations of BS 7671 or Electricity at Work Regulations, or more frequently if advised by your electrician.

Thermographic imaging, using heat-sensitive camera equipment, is increasingly undertaken to identify any "hot spots" and provide early warning of potential problems. This is particularly beneficial for detecting certain electrical faults, overheating motors, pumps, extraction etc., and should supplement the formal electrical inspection programme.

Consider fitting a direct, low pressure application, fixed fire suppression system to electrical and/or switch cabinets. Any such system to comply with **LPS1666: Requirements and test procedures for the LPCB approval of direct low pressure (DLP) application fixed fire suppression systems** and upon activation isolate the power supply and activate the fire or welfare alarm system via a relay switch.

Further guidance can be found in the Fire Safety Guide for Electrical Installations or at <https://www.redbooklive.com/download/pdf/LPS1666-Issue-Direct-Low-Pressure-Application-Fire-Suppression-System-Standard.pdf>

AUTOMATIC FIRE ALARMS

Consider installation of, or upgrading existing system, to an automatic fire alarm system conforming to **BS5839: Fire Detection and Alarm Systems for Buildings: Part 1: Code of Practice for Design installation, commissioning and maintenance of systems in non-domestic premises**, specifically designed to provide early warning fire detection. The fire alarm system should

give a warning remotely to nominated staff by use of an auto-dialler or preferably to an approved alarm receiving centre.

A programme of testing, servicing, checking and maintenance in accordance with the installer's recommendations to be in place and documented.

PORTABLE FIRE EXTINGUISHERS

Suitable extinguishers to be located throughout the premises, with at least one dry powder appliance located within the control room of each shed. Regular inspection and

maintenance to be undertaken and recorded by an approved supplier. Staff should be provided with instruction and training in the correct use of extinguishers.

HEAT TREATMENT

Burning of the floor and wall surfaces to treat coccidiosis between crops should not be carried out and a safer method of sanitising between crops to be used, where possible, as a safer alternative. Where this is not possible and you use poultry floor burner sanitisers, or similar equipment for the application of heat by naked flame, the following precautions to be taken:

1. Complete a thorough inspection of the area where the work is to be carried out to ensure that there are no obvious combustible materials or exposed combustible elements of the building which could be ignited by direct or conducted heat;
2. The equipment is of proprietary manufacture operated by a competent employee or contractor and is:

- i. Maintained and serviced in accordance with the manufacturer's instructions where owned by you;
 - ii. Attended at all times while alight or in operating mode; and
 - iii. Extinguished immediately after use;
3. Suitable and adequate number of fire extinguishers provided;

The Floor Burner Permit Checklist to be completed by a competent employee each time the equipment is used;

4. Where the work involves the use of gas cylinders, keep those not required for immediate use outside the building in which the work is taking place;
5. Monitoring of the area where work was carried out for at least 60 minutes after completion.

HEATING

Biomass - many poultry farms are now heated using biomass boilers. Ideally these boilers to be situated in a non-combustible building 10m from the poultry shed with automatic fire suppression inbuilt and the boiler subject to annual maintenance by an approved and qualified engineer.

For further information refer to Fire Safety Guide for the Use of Biomass Boilers.

Whole house heaters (usually oil/kerosene or gas fired):

1. The heaters should be fitted with automatic fuel cut off devices;
2. Second stage gas regulators to be located outside the building with isolation points available and noted on the site fire plan;
3. Heaters cleaned out and serviced at the end of every crop.
4. Gas fired canopy brooder heaters to be fitted with a safety chain suspended from a separate strong point and cleaned out and serviced at the end of every crop.

HOUSEKEEPING

Smoking to be permitted only in a dedicated area, preferably at least 7m (but wherever possible 10m) away from the poultry buildings, ash trays and fire extinguishers to be provided and suitable notices prominently displayed.

External storage of combustible or trade waste materials to be at least 7m (but wherever possible 10m) from the fabric of the building, preferably within fenced or enclosed areas.

Internal storage of combustible or waste materials, other than bedding (litter), to be kept to a minimum of at least 1.5m from electrical panels and heaters.

Vegetation growing in the immediate vicinity of all poultry sheds to be cut back regularly.

Battery charging to be undertaken in an area of non-combustible construction or outside the main buildings. Where this is not possible charging is not to be

undertaken within 3 metres of combustible composite insulated panels unless they are protected by non-combustible materials such as steel checker plate or mineral board extending at least 1 metre around the chargers. Chargers not to be mounted on to panels but on fixed metal stands located at least 250mm from the panels.

An effective rodent control programme to be implemented, either by an experienced contractor or an employee who has undergone appropriate training.

Muck not to be stored in the vicinity of a watercourse and poultry muck not spread on grassland intended for grazing by livestock.

Dead bins to be securely locked and any incinerator plant to be sited a minimum of 10 metres away from the poultry sheds and be adequately guarded to prevent malicious access.

HEAT STRESS

Heat stress involves mainly (but not exclusively restricted to) meat birds towards the end of their life when the external temperature rapidly increases, which can have a dramatic adverse effect on animal welfare and the profitability of a crop.

Losses from heat stress can be reduced by:

1. Ensuring the stocking density does not exceed The Department of Environment, Food and Rural Affairs (DEFRA) guidelines and it is good practice to reduce the stocking density further in the summer months;
2. Ensuring the recommended maximum ventilation rates are achieved to avoid overheating and reduce excess moisture. Tunnel ventilation can be useful or the addition of extra fans in the gable end or internal circulation fans;
3. Poultry staff being able to recognise early signs of heat stress and there being written instructions on how to deal with hot weather emergencies;
4. Staff checking on the birds more frequently in hot weather without disturbing them unduly;
5. The use of external or internal misting systems (except where the weather is humid).

More information is available in the latest addition of the DEFRA publication '**Heat Stress in Poultry – Solving the Problem**' available here <https://www.gov.uk/government/publications/heat-stress-in-poultry-solving-the-problem>

ENVIRONMENTAL ALARM

To reduce losses from suffocation an environmental alarm to be installed to provide automatic detection and warning of a fall or rise in the temperature, a failure in the electricity supply, a loss of power to the fan control panel and where three phase electricity is present, loss of a single phase.

The environmental alarm to be tested weekly to ensure it is fully operational and be serviced annually by a suitably qualified engineer with a test log retained.

The environmental alarm to also give a warning remotely to nominated staff by use of an auto-dialler or preferably to an approved alarm receiving centre. A programme of testing, servicing, checking and maintenance in accordance with the installer's recommendations to be in place and documented.

Ideally a separate manual temperature alarm to also be installed as a backup.

BACK UP GENERATOR

A backup generator to be available with enough capacity to power the whole installation. Backup generator plant to be tested weekly for 15 minutes and under full load at least every 3 months for 30 minutes. Retain test logs.

Generators with an automatic cut-in facility and heated engine with batteries on trickle charge are recommended. Fuel powered generators to have enough fuel available on-site to run and provide adequate time for additional fuel to be

obtained for any protracted breakdowns.

Ideally the generator to be in a detached location/building a minimum of 7m (but wherever possible 10m) from the main power intake.

Manual generators may be suited for a site which is always occupied by an employee. Any generators powered by a tractor to have the Power Take Off (PTO) shaft attached permanently.

SITE SECURITY

The sheds, and any site access gates, to be secured by a proprietary locking bar and closed shackle padlock conforming to **EN12320: Building hardware. Padlocks and padlock fittings. Requirements and test methods**, and achieving security classification 5 or above.

Security lighting to be operational from dawn till dusk, installed and located to avoid the production of shadowed areas where intruders can operate unseen, and which should be out of reach of vandals and fitted with protective coverings.

CLOSED CIRCUIT TELEVISION

It is recommended that there be CCTV coverage of external areas as follows:

1. The supply, installation and maintenance of the system should be undertaken by a competent and qualified installer, preferably approved by an independent inspection body such as National Security Inspectorate (NSI);
2. The system should ideally comply with British Standard **BS8418 Installation and remote monitoring of detector-activated CCTV systems. Code of practice, or** European Standard **BS EN 50132 Alarm Systems. CCTV surveillance systems for use in security applications. Application guidelines;**
3. The system to provide coverage of all vulnerable areas;
4. Enough lighting should be provided, or nighttime vision cameras used, to ensure pictures are of suitable quality during the hours of darkness;
5. To be fully effective the system should be activated, out of business hours, by detectors within the perimeter security of the premises and be connected to an NSI approved Alarm Receiving Centre which can arrange an appropriate response.

CONTINGENCY PLANNING

Measures to be put in place for contingency planning following an assessment of possible hazards. Such plans should deal with events such as:

1. The disruption of feed, power or water supply, including failure of automated systems;
2. Heat stress;
3. Natural disasters such as flooding;
4. Fires;
5. Arrangements for allowing rapid entry to locked buildings in case of emergency, for example by providing clear instruction on emergency contact details;
6. Arrangements for dealing with restrictions placed in case of notifiable disease, including dealing with delays in moving birds to slaughter and the compulsory temporary housing of free-range birds and;
7. Arrangements for both killing and disposal of flocks when depopulation is required in the event of notifiable disease or due to contamination of feed or pasture with toxins.

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