

RISK MANAGEMENT PROGRAMME FOR POTATO STORES

Use of 'sprouting suppression systems' are predominantly concentrated within the potato industry but can also be found in many other vegetable or fruit storage related trades. There have been a number of large fire losses associated with these systems, mainly where using methanol based carrying materials which result in a flammable atmosphere within the store. The potential for serious fire losses in potato stores can be reduced by implementing a risk management programme to minimise potential hazards. A designated person should oversee the programme to ensure all aspects are properly managed and any required corrective action is implemented without delay.

The following information is provided for guidance purposes only

1) COMBUSTIBLE COMPOSITE PANELS/ SPRAYED LININGS

- a) Where possible the fire risk to be reduced by replacing panels/linings with non-combustible (rock wool or mineral wool) panels or by those approved by the Loss Prevention Certification Board (LPCB) achieving LPS 1181 pt1 EXT30, INT A 30/ LPS 1208 FR30 as a minimum
- b) Welding or cutting equipment, blow lamps, blow torches or similar equipment not to be used either for repairs to combustible composite panels/linings or within 5m of them unless they are:
 - i) protected by non-combustible fire blankets, drapes or screens
 - ii) subject to a strict "permit to work" system
- c) 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.

2) ELECTRICAL INSTALLATIONS & AFTERCARE

- a) Installation and electrical testing of the fixed installation to be undertaken in accordance with the current edition of Institute of Engineering and Technology (IET) Wiring Regulations: BS7671:2008. by a member of National Inspection Council for Electrical Installation Contracting (NICEIC), Electrical Contractors Association (ECA) or similar approved UKAS accredited body who are regulated for commercial installations:
 - i) the frequency of wiring inspection of the premises with IET certification to be every 3-5 years in accordance with the recommendations of BS 7671:2008 or

Electricity at Work Regulations 1989, or more frequently if advised by your electrician

- ii) a full 100% inspection of the installation to be undertaken unless a previous full inspection has been completed, when a partial inspection on a rolling programme may be permitted. In such instances previous documentation to be available and the partial inspection does not reveal abnormal incident of failures
 - iii) 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 high fire hazard risks
 - iv) electrical wiring/switch panels and controls directly attached to or passing through, combustible panels or linings should be inspected annually with IET certification or be subject to at least annual thermographic inspection to detect hidden hot spots and any corrective action taken as necessary
- b) Other recommended checks include the condition and electrical resistance of insulation, earth continuity and resistance to earth
 - c) Portable Appliance Testing is the periodic inspection of portable apparatus connected to a fixed installation ranging from kettles to vending machines. This must be undertaken in accordance with the relevant Code of Practice published by the IET and whilst this is recommended at intervals between three months and four years, depending upon the risk, annual testing would be usual



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- d) High temperature electrical fittings are not to be fitted directly on to or near combustible panels or linings
- e) Access to isolator switches to be kept clear in case of emergency
- f) evaporators on refrigeration systems to be fitted with additional automatic thermostatic cut-offs pre-set at no more than 20 degrees centigrade above normal ambient temperature and subject to annual calibration checks or as stipulated by the manufacturer.

3) 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. The installation to be designed and installed in accordance with category P1 as defined within BS5839 with remote signalling to an approved alarm receiving centre in accordance with BS5979 Code of Practice for Remote Centres Receiving Signal.

4) PORTABLE FIRE EXTINGUISHERS

Adequate extinguishers to be located throughout the premises with at least one dry powder appliance within each control room. Regular inspection and maintenance to be undertaken by an approved supplier and recorded.

5) CIPC (POTATO FOGGING) SUPPRESSION SYSTEMS

- a) A di-chloromethane based CIPC to be used where possible
- b) Only proprietary CIPC application machinery to be used and operated in accordance with the manufacturer's instructions
- c) Machinery to be serviced annually, or in accordance with the manufacturer's recommendations whichever is the most frequent, by a competent person
- d) When the CIPC has settled the store to be flushed where possible within 6 - 8 hours.

6) MOBILE ETHYLENE RESTRAIN GENERATORS

- a) Only modern proprietary mobile ethylene restrain generators should be used and operated in accordance with the manufacturer's instructions
- b) Machinery to be serviced annually, or in accordance with the manufacturer's recommendations whichever is the most frequent, by a competent person

- c) Where possible the generator to be permanently fixed, preferably set close or abutting to an adjoining non-combustible wall or partition fixture. Where this is not practicable the generator to be set within a clear designated floor area and a clear space of at least 3m from any combustibles maintained at all times
- d) A barrier to prevent accidental impact from fork lift trucks to be erected around the generator
- e) Only proprietary ethylene solvent fuel as designated by the manufacturer to be used. Filling and decanting of ethylene solvent to be restricted to a designated competent person only using anti spark or plastic filling funnel connection and to be carried out strictly in accordance with the manufacturer's instructions
- f) An automatic thermostatic safety device, designed to switch off operation in case of emergency or overheating, to be fitted
- g) The generator not to be operated in excess of 24 hours without inspections to ensure its safe operation
- h) Mains electricity cable supply to include a suitably rated Residual Current Device designed to cut off the supply in the event of an emergency or power surge
- i) The generator to be fitted with an automatic fire extinguisher or gas suppression system
- j) Methanol to be stored in a separate designated flammable store.

7) HEATING

- a) Only fixed indirect heating systems to be used such as gas or oil fired installations with ducted warm air and the products of combustion vented to the open via a flue. Such installations to be serviced annually by a competent engineer
- b) Temporary portable appliances using LPG or paraffin as a fuel source to warm stores for seed potatoes is potentially introducing a high fire risk into the store. Ducted warm air fed from an external temporary diesel heater should be considered as an alternative.

8) HOUSEKEEPING

- a) Any battery charging to be undertaken in an area of non-combustible construction or outside the buildings. Where this is not possible charging not to be undertaken within 3m of combustible panels unless they are protected by non-combustible materials

- b) External storage of combustible or waste materials to be at least 7m (but wherever possible 10m) from the fabric of the building, preferably within fenced or enclosed areas
- c) Smoking to be prohibited within the buildings
- d) Vegetation growing against the side of the buildings to be cut back regularly.

8) FIRE RISK ASSESSMENT

A fire risk assessment must be undertaken to identify the construction and evaluate the potential for serious fire in the light of working practices, inception hazards and likely fire spread. Areas to be classified as high, medium or low. The results of the assessment should be documented, together with action points, and reviewed annually. Completion of a fire risk assessment is required in accordance with current legislation.



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IMPORTANT NOTE

The information contained herein is designed for guidance only and NFU Mutual cannot accept responsibility for any errors or omissions arising from its use.

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