**FIRE RISK ASSESSMENT**

Site / Location: Lincoln Street

Assessor: Steve Andrew

Department: Lithium Batteries and Hazardous Waste

Position: Chief Technology Officer

Work Activity: Hazardous Waste Treatment & Transfer

Date of Assessment: 3rd March 2022

Number of Site Employees: 1

Maximum Number of Persons in Area: 30 (Including Contractors)

Follow up Assessment: Mar-22

Name of Assessor: Jon Regan

Position: HT Engineer

**PROCESS**





**OVERVIEW**

The Regulatory Reform (Fire Safety) Order 2005 replaces previous fire legislation. It applies to Offices and shops; Factories and warehouses; Sleeping accommodation; Residential care premises (except in Scotland); Educational premises; Large, small and medium places of assembly; Theatres and cinemas; Open air events and venues; Healthcare premises and Transport premises and facilities. Every type of facility, function or location within LiBatt Recycling Ltd is therefore affected by this new legislation. Any fire certificate issued under the Fire Precautions Act 1971 will cease to have any effect.

It is understood that many of the questions to be considered might have been answered in previous initiatives. For locations which have previously carried out a fire risk assessment under DSEAR, OBRA or the Fire Precautions (Workplace) Regulations 1997, as amended 1999, which has been regularly reviewed, then all that needs to be done is to revise that assessment taking account of the wider scope of the ‘Order’.

Due to the changes taking place in the buildings and the change of use of the site, then it is necessary to make significant improvements to existing physical fire protection arrangements in order to comply with the ‘Order’.

A risk assessment must be carried out and kept up to date to ensure that all the fire precautions in the premises remain current and adequate. The fire risk assessment should be reviewed every six months at the latest or whenever changes occur to legislation/regulation, site activities or site infrastructure.

Responsibility for complying with the 'Order' rests with the 'responsible person.' Within LiBatt this is the person with control over the premises, e.g. site/depot manager, unless otherwise specified. The 'Order' states that if there is more than one responsible person in any type of premises, all must take reasonable steps to co-operate and co-ordinate with each other.

The sequence of events shown in the introduction page, and expanded upon in parts 1 to 4, derive from the official guide to the new legislation, published by HM Government, (reference number 05 FRDS 03338 [b]).

The methodology shown in parts 1 to 4 is wholly consistent with the requirements for undertaking a fire risk assessment as set out in procedure OEG/29 (pages 6 to 11). Any fire risk assessment should therefore be undertaken in conjunction with that procedure.

In order to fully comply with the new Fire Regulations any unanswered questions, or issues requiring follow-up, which are set out in the form of the 'Action Plan,' must be addressed by the responsible person and documented to show intended actions and timescale for completion.

The responsible person must ensure that the documented fire risk assessment is retained as a record ready to be produced if requested by regulatory authorities.

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| **PART 1 IDENTIFY THE FIRE HAZARDS Sources of Ignition, Sources of Fuel & Sources of Oxygen** | **FINDINGS** | **REF** | **RATING** |
| **1.1** | **Sources of ignition** | Smoker's materials. | Smoking is not allowed on site other than the designated location away from main building & process areas |  | **Acceptable** |
| **1.2** | **Sources of ignition** | Naked flames | Bunsen Burner & Flash-Point Apparatus within Lab 2. Not Routinely used. |  | **Acceptable** |
| **1.3** | **Sources of ignition** | Sparks from burning (e.g. bonfires in yard) | This is not allowed on site. |  | **Acceptable** |
| **1.4** | **Sources of ignition** | Sparks from other sources | Diesel Fork Lift Truck |  | **Acceptable** |
| Batteries stored in locked building in suitable containers |  | **Acceptable** |
| **1.5** | **Sources of ignition** | Vehicles and vehicle exhausts | With suitable parking facilities there is no reason for petrol-driven vehicles to enter any operational areas |  | **Acceptable** |
| **1.6** | **Sources of ignition** | Electrical, gas or oil-fired heaters (fixed or portable) | Not routinely used. |  | **Acceptable** |
| **1.7** | **Sources of ignition** | Hot processes / hot work (e.g. welding/burning) | Hot work such as welding and burning is controlled by permit to work systems |  | **Acceptable** |
| **1.8** | **Sources of ignition** | Cooking equipment, hot ducting, flues and filters | Microwave ovens, kettles & toasters in canteen subjected to PAT testing |  | **Acceptable** |
| **1.9** | **Sources of ignition** | Dust extraction fans and fume removal systems | Laboratory fume cupboard ducting - tested on an annual basis.Dust Extraction for Carbon Dust in the Recycling Process is designed and constructed to BAT for 2022 |  |  |
| **1.10** | **Sources of ignition** | Failure of temperature control thermostats on hot work/cooking processes | The laboratory furnace, oven and test tube heater are subject to portable appliance testing. |  | **Acceptable** |
| **1.11** | **Sources of ignition** | Suitability of electrical equipment, particularly portable appliances. | PAT Testing Carried out annually (June 2018) |  | **Acceptable** |
| **1.12** | **Sources of ignition** | Heat sources such as gas, electric, microwaves, radio frequency, thermal fluids | All emission control on the Lithium Processing Plant is designed and controlled to BAT for 2022 |  |  |
| **1.13** | **Sources of ignition** | Steam pipes | Steam not generated on site. |  | **Acceptable** |
| **1.14** | **Sources of ignition** | Frictional generated heat from mechanical equipment | Processing systems on site such as the crusher & dryers, pumps & mixers which are subject to routine maintenance |  |  |
| **1.15** | **Sources of ignition** | Static charge from mechanical equipment, e.g. conveyor belts | None on site. |  | **Acceptable** |
| **1.16** | **Sources of ignition** | Poor electrical insulation, e.g. overloads, heating from bunched cables, damaged cables | Fixtures and fittings routinely checked.  |  | **Acceptable** |
| **1.17** | **Sources of ignition** | Spontaneous ignition and self-heating, e.g. Class 9 Lithium Batteries | These are the main changes to acceptable items on site into site. |  | **Acceptable** |
| **1.18** | **Sources of ignition** | Spontaneous ignition and self-heating, e.g. oil-soaked rags, paint scrapings | None encountered during audit. Oil rags are accepted on site for onward transfer but are kept in suitable containers.Housekeeping in workshop to ensure highest standards at all times.  |  | **Acceptable** |
| **1.19** | **Sources of ignition** | Faulty or misused electrical equipment, e.g. refrigeration de-frost systems, fork lift truck charging systems | Battery charger used for effluent auto-sampler. Only used when operators on site, not left connected overnight. |  | **Acceptable** |
| **1.20** | **Sources of ignition** | Light fittings/lighting equipment too close to stored products/materials | All light fittings are fluorescent type. |  | **Acceptable** |
| **1.21** | **Sources of ignition** | Hot surfaces and obstruction of equipment ventilation | Lab furnace has adequate ventilation above; COD Digester plate shielded |  | **Acceptable** |
| **1.22** | **Sources of ignition** | Arson | CCTV Installed with live monitoring |  | **Acceptable** |
| **1.23** | **Sources of fuel** | Flammable liquid-based products; Lithium Battery Electrolytes based on Organic Carbonates | A significant amount of Electrolyte will be extracted during the recycling process. This is all classed as Flammable Liquid with a very low Flash Point. |  |  |
| **1.24** | **Sources of fuel** | Flammable liquid-based products such as laboratory chemicals and reagents; | Small quantities of highly flammable solvents stored in locked, bunded metal inside laboratory. 25ltr containers of flammable solvents stored in production area away from sources of ignition |  | **Acceptable** |
| **1.25** | **Sources of fuel** | Flammable liquid-based wastes | Bulk waste oils and oily waters are received into site storage tanks in readiness, for cold blending and onward shipment. Other wastes, in non-bulk form are also received into site for sorting and subsequent despatch for disposal. The hazard characteristics of non-bulk wastes are varied, but the site does not accept Class 1 (Explosives), Class 7 (Radioactive) or Class 5 (Oxidising agents). The site only accepts small quantities of contaminated fuels which are kept segregated from other wastes and away from sources of ignition. Event frequency judged to be Remote, Residual risk Medium (DSEAR July '14). A.W.S Tankers and Ro/Ro bin parked/stored in zones 6 + 8 need to be logged including their respective loads. |  | **Acceptable** |
| **1.27** | **Sources of fuel** | Flammable gases – waste cylinders | Site does not accept waste cylinders on site |  | **Acceptable** |
| **1.28** | **Sources of fuel** | Flammable gases – laboratory | Piped P10 (methane in argon) to XRF stored outside the building and butane for flash point apparatus. Daily checks implemented to confirm system free from leaks. Gas supply isolated when equipment is not in use. Stored Securely.Event frequency judged to be Extremely unlikely, Residual risk Low (DSEAR July '14). |  | **Acceptable** |
| **1.29** | **Sources of fuel** | Flammable gases - aerosols | Aerosols and paint are to be kept in the workshop in an appropriate approved COSHH locker. Usage in the workshop to be deconflicted with permitted and regular activity.  |  | **Acceptable** |
| **1.3** | **Sources of fuel** | Flammable gases - oxy/acetylene welding/burning set | To be used only when under a hot works permit to be issued daily when a manual fire detection mechanism is in place. To be reviewed on installation of an automatic system in line with equipment functionality. |  | **Acceptable** |
| **1.31** | **Sources of fuel** | Stored goods and high piled or racked storage | Max storage is 2 pallets high, any storage on racking is to be checked daily and upon loading and unloading to ensure safety and stability. Area around racking is to be controlled and free from unauthorised persons |  | **Acceptable** |
| **1.32** | **Sources of fuel** | Flammable atmospheres due to a leakage from container or container falling and rupturing if dropped during transportation or after failure of a pallet - (Non-bulk flammable liquids and solids storage area) | Limited quantities of flammable materials (contaminated fuels) stored in covered building away from other materials. All containers are inspected regularly. |  | **Acceptable** |
| **1.33** | Flammable atmospheres due to a leakage from container or container falling and rupturing if dropped during transportation or after failure of a pallet | Materials only accepted in approved containers and all containers and pallets are inspected on a daily basis. |  | **Acceptable** |
| **1.34** | **Sources of fuel** | Flammable atmospheres due to generation of flammable atmosphere during bulking up of small containers | Discussions revealed that this is confined to oils and oily waters. Other flammable wastes are not bulked from drums. However, incidents where lower flash-point materials are delivered in bulk (<12,000ltrs) these are stored in one isolated tank.  |  | **Acceptable** |
| **1.35** | **Sources of fuel** | Foodstuffs containing sugar and oils; | None. |  | **Acceptable** |
| **1.36** | **Sources of fuel** | Paper products – stationery, advertising materials and decorations; | All office spaces contain combustible materials such as paper, but spaces are generally neat and orderly. Site records are stored in dedicated metal filing cabinets, but this is to be reviewed when volume increases |  | **Acceptable** |
| **1.37** | **Sources of fuel** | Plastic and wooden storage aids both in use and idle, such as pallets, IBC’s | Wooden pallets tend to be used and not stored. Excess pallets are stored away from site boundary and stocks of plastic drums and kegs are stored in a separate covered building. The area is away from likely sources of ignition. |  | **Acceptable** |
| **1.38** | **Sources of fuel** | Combustible installation, such as panels/walls/ceilings constructed with combustible cores | All office working spaces and adjacent areas are constructed of combustible materials to one degree or other. |  | **Acceptable** |
| **1.39** | **Sources of fuel** | Textiles and soft furnishings, including curtains | Standard furniture and fittings. |  | **Acceptable** |
| **1.4** | **Sources of fuel** | Waste products such as shredded paper, wood shavings, offcuts, dust and litter/rubbish | Office waste is placed in a lidded wheelie bin. |  | **Acceptable** |
| **1.41** | **Sources of fuel** | Construction materials of buildings | Offices and laboratory block are a combination of brick and concrete, some with external steel cladding.  |  | **Acceptable** |
| **1.42** | **Sources of fuel** | Materials used to line floors, walls and ceilings, e.g. polystyrene or carpet tiles, fixtures and fittings and how they might contribute to the spread of a fire | Main office spaces are carpeted - laid on concrete floors. |  | **Acceptable** |
| **1.43** | **Sources of fuel** | Fuel oil for vehicles or plant | Fork Lift truck are served by Gas Oil. Main storage tank was within the 'P' bund which is suitable and in compliance with HSG174, now it needs to be relocated in a suitable bonded area. |  |  |
| Flammable / highly flammable materials including fuels not allowed to be brought onto site by contractors unless no alternative available. All contractors inducted hence informed of potential hazards / hazardous areas on site, controls and emergency procedures in place. All maintenance and repair work including by contractors controlled via permit to work system and procedure. Contractors checked frequently to ensure working to agreed method statements. |  | **Acceptable** |
| **1.44** | **Sources of oxygen** | Oxidising materials, which can provide a fire with oxygen and so help it burn. | None observed, and permit does not accept oxidising materials |  | **Acceptable** |
| **1.45** | **Sources of oxygen** | Oxygen supplies from cylinder storage and piped systems, e.g. welding processes | Storage and piped systems are not fitted on site. Cylinders are to be stored appropriately at all times either caged or secured to a wall.  |  | **Acceptable** |
| **1.46** | **Sources of oxygen** | Pyrotechnics, which contain oxidising agents and need to be treated with great care. | Not applicable. |  | **Acceptable** |

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|  **PART 2 IDENTIFY PEOPLE AT RISK**  | **FINDINGS** | **REF** | **RATING** |
| **2.1** | **People in and around the premises** | Employees who work alone, e.g. cleaners, security staff | See Lone Working Procedure. No security staff on site due to remote monitoring. Cleaning activities are only allowed under supervision. Occasionally drivers & plant operative may be present alone for the purpose of opening the site / swapping vehicles however the potential for fire generation is minimal |  | **Acceptable** |
| **2.2** | **People in and around the premises** | People who are in isolated areas, e.g. maintenance staff, crane operators, fork lift/reach truck operatives and cat walks; | Maintenance staff only operate under the permit to work system which assesses the risks related to fire. It is not considered necessary to install automatic fire detection systems since all areas of site are patrolled on a regular basis |  | **Acceptable** |
| **2.3** | **People in and around the premises** | Unaccompanied children and young persons | Not applicable. |  | **Acceptable** |
| **2.4** | **People in and around the premises** | People who are unfamiliar with the premises, e.g. seasonal workers, contractors, visitors and customers; | Seasonal workers are not employed. Contractors are not currently subject to site induction procedures. Customers and visitors are accompanied at all times. |  | **Acceptable** |
| **2.5** | **People in and around the premises** | People with disabilities or those who may have some other reason for not being able to leave the premises quickly. | Not currently applicable |  | **Acceptable** |
| **2.6** | **People in and around the premises** | People with language difficulties. | Not currently applicable |  | **Acceptable** |
| **2.7** | **People in and around the premises** | Other people in the immediate vicinity of the premises. | Emergency procedures include communicating with neighbouring companies. |  | **Acceptable** |

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| **PART 3 EVALUATE, REMOVE, REDUCE and PROTECT FROM RISK**  | **FINDINGS** | **Ref** | **RATING** |
| **3.1** | **Evaluate risk of a fire occurring** | Accidentally, such as when smoking materials are not properly extinguished or when lighting displays are knocked over | Smoking only allowed in designated areas, away from combustible material.  |  | **Acceptable** |
| **3.2** | **Evaluate risk of a fire occurring** | By act or omission, such as the generation of heat or sparks from equipment and machinery, especially in flammable atmospheres. | FLT is suitable for activities on site.All works generating heat or sparks to be under a hot works permit mechanism. |  | **Acceptable** |
| **3.3** | **Evaluate risk of a fire occurring** | Although there is probable flammable atmosphere from stocks of flammable wastes and/or sampling operations, there is no reason for petrol vehicles to enter the operational areas of the site. Adequate parking is provided for visiting cars and all delivery vans must report to site operatives prior to entering any operational areas. |  | **Acceptable** |
| **3.4** | **Evaluate risk of a fire occurring** | By act or omission, such as when flammable or combustible materials are placed near to a heat source or electrical equipment that is not properly maintained,  | Batteries stored in accordance with regulation of EA Permit or S2 Exemption |  |  |
| **3.5** | No steam generated or used on site. |  | **Acceptable** |
| **3.6** | **Evaluate risk of a fire occurring** | By act or omission, such as when requirements for safe and proper storage of wastes or other materials are not met | Waste is stored in accordance with HSG71. Only suitable vehicles are allowed on site |  | **Acceptable** |
| **3.7** | Oil in storage tanks, processing tanks and product tanks no longer heated for treatment |  | **Acceptable** |
| **3.8** | **Evaluate risk of a fire occurring** | By act or omission, such as when waste packaging is allowed to accumulate near a heat source.  | None encountered. |  | **Acceptable** |
| **3.9** | **Evaluate risk of a fire occurring** | By act or omission, such as storing LPG next to an electric fire or other source of heat | None encountered - butane in Lab 2 is limited and away from potential heat/ignition sources |  | **Acceptable** |
| **3.10** | **Evaluate risk of a fire occurring** | Deliberately, such as an arson attack. | Site boundary is protected by suitable fencing and brickwork. CCTV and automated - security operated gate system installed. |  | **Acceptable** |
| **3.11** | **Evaluate risk to people** | Fire starting on a lower floor affecting the only escape route for people on upper floors or the only escape route for people with disabilities | Escape ladder in place in top office provides two exit routes. Fire escape window in bottom office provides two routes.  |  | **Acceptable** |
| **3.12** | **Evaluate risk to people** | Fire starting in a service room and affecting hazardous materials | Switchgear room behind production building within 5mtrs of oil or batteries are being stored however all other service rooms are within office environments  |  |  |
| **3.13** | **Evaluate risk to people** | Fire developing in an unoccupied space that people have to pass by too escape from the building | Doors from offices to corridors are fire doors and can be opened easily. Door from Lab to Reception is lockable however there is a secondary exit to the rear of the building.Workshop is fitted with 2 escape routes front and rear, with clear and unobstructed routes throughout. House keeping to be maintained throughout operation.  |  | **Acceptable** |
| **3.14** | **Evaluate risk to people** | Fire spreading rapidly through the building because of combustible structural elements and/or large quantities of combustible goods | General office and laboratory environments include combustible materials. Housekeeping is generally good. See 3.87 and 4.8 regarding structural elements, and 3.4 regarding main office stairwell. |  | **Acceptable** |
| **3.15** | **Evaluate risk to people** | Rapid vertical fire spread in high rack storage | Not applicable. |  | **Acceptable** |
| **3.16** | **Evaluate risk to people** | Fire or smoke spreading through a building via routes such as vertical shafts, service ducts, ventilation systems, poorly installed, poorly maintained or damaged, walls, partitions and ceilings | Not applicable. |  | **Acceptable** |
| **3.17** | **Evaluate risk to people** | Fire or smoke spreading through a building due to poor installation of fire precautions, e.g. incorrectly installed fire doors or incorrectly installed services penetrating fire walls; | Not applicable. |  | **Acceptable** |
| **3.18** | **Evaluate risk to people** | Fire or smoke spreading through a building due to poorly maintained and damaged fire doors or fire doors being wedged open. | Not applicable. |  | **Acceptable** |
| **3.19** | **Remove/reduce sources of ignition** | Wherever possible replace a potential source with a safer alternative | No potential to replace activities were observed at time of audit |  | **Acceptable** |
| **3.20** | **Remove/reduce sources of ignition** | Operate a safe smoking policy in designated smoking areas and prohibit smoking elsewhere; | Smoking Area away from potential sources of ignition.  |  | **Acceptable** |
| **3.21** | **Remove/reduce sources of ignition** | Separate ignition hazards and combustibles, e.g. ensure sufficient clear space between lights and combustibles, build fire-resistant enclosures for hot processes; | No high stacked goods near lights any hot work to be controlled by permit to work system which may include heat/spark blankets |  | **Acceptable** |
| **3.22** | **Remove/reduce sources of ignition** | Inspect and monitor ignition hazards so that preventative corrective actions can be undertaken, e.g. sample temperatures in ducts, inspect for hot spots in electrical and mechanical systems; |   |  | **Acceptable** |
| **3.23** | **Remove/reduce sources of ignition** | Ensure electrical, mechanical and gas equipment is installed, used, maintained and protected in accordance with manufacturer’s instructions | Fixed Electrical Report 2015. Due for Re-Test 2020 |  |  |
| **3.24** | **Remove/reduce sources of ignition** | Strictly control hot processes/hot work by operating permit-to-work schemes | All site personnel and contractors to adhere to hot work operating processes.  |  | **Acceptable** |
| **3.25** | **Remove/reduce sources of ignition** | Check all areas where hot work (e.g. welding) has been carried out to ensure that no ignition has taken place and no smouldering or hot materials remain that may cause a fire | No hot work to be conducted after 1 hour before site closes, or an appropriate fire watcher to be in position for at least 1 hour after hot works has ceased.  |  | **Acceptable** |
| **3.26** | **Remove/reduce sources of ignition** | Ensure that no one carrying out work on gas fittings which involves exposing pipes that contain or have contained flammable gases uses any source of ignition such as blow lamps or hot-air guns | There is a gas supply to the office/lab but no work taking place at time of audit |  | **Acceptable** |
| **3.27** | **Remove/reduce sources of ignition** | Ensure no one uses any source of ignition while searching for an escape of gas | There is a gas supply to the office/lab but no work taking place at time of audit |  | **Acceptable** |
| **3.28** | **Remove/reduce sources of ignition** | Take precautions to avoid arson | See 3.10 |  | **Acceptable** |
| **3.29** | **Remove/reduce sources of fuel** | Reduce stocks of flammable materials, liquids and gases in open areas to a minimum. Keep remaining stock in dedicated storerooms or storage areas, preferably outside, where only the appropriate staff are allowed to go, and keep the minimum required for the operation of the business | Small quantities of highly flammable solvents stored in locked, bunded metal inside laboratory, distanced from sources of ignition and only removed when required. Any spillage cleaned up immediately. Trained laboratory staff who understand hazards associated with solvents in use and activities have been assessed. Solvents not used in areas close to sources of ignition. Secondary COSHH cabinet in workshop (Shed 1), to store paints and cutting fluids and any other material appropriately.Event frequency judged to be Extremely Remote, Residual risk Very Low to Low (DSEAR July '14). |  | **Acceptable** |
| **3.30** | **Remove/reduce sources of fuel** | Do not keep flammable solids, liquids and gases together | HSG71 Storage protocols are followed to ensure sufficient segregation of non-compatible materials |  | **Acceptable** |
| **3.31** | **Remove/reduce sources of fuel** | Ensure areas containing flammable gases are well ventilated, e.g. FLT charging units | Flammable Gasses stored outside. No waste gasses permitted.  |  | **Acceptable** |
| **3.32** | **Remove/reduce sources of fuel** | Ensure flammable materials, liquids and gases, are kept to a minimum, and are stored properly with adequate separation between stacks of stored goods | Regular stock checks, packaged waste stored in a manner to facilitate easy observation of building contents  |  | **Acceptable** |
| **3.33** | **Remove/reduce sources of fuel** | Use non-combustible building materials for building modifications | This should be borne in mind for future developments. |  | **Action Needed** |
| **3.34** | **Remove/reduce sources of fuel** | Remove, or treat large areas of highly combustible wall and ceiling linings, e.g. polystyrene or carpet tiles, to reduce the rate of flame spread across the surface | This should be borne in mind for future developments. |  | **Action Needed** |
| **3.35** | **Remove/reduce sources of fuel** | Develop a formal system for the control of combustible waste by ensuring waste materials and rubbish are not allowed to build up and are carefully stored until disposed of, particularly at the end of the day | Office waste is placed in a lidded wheelie bin. The area beneath the main office stairwell has been cleared of combustible substances |  | **Acceptable** |
| **3.36** | **Remove/reduce sources of fuel** | Act to avoid any parts of the premises, and in particular storage areas, being vulnerable to arson or vandalism | See 3.10 |  | **Acceptable** |
| **3.37** | **Remove/reduce sources of fuel** | Check all areas where hot work (e.g. welding) has been carried out to ensure that no ignition has taken place and no smouldering or hot materials remain that may cause a fire later. | Permits require sign off completion by Plant Manager. |  | **Acceptable** |
| **3.38** | **Remove/reduce sources of O2** | Reduce the potential source of oxygen supplied to a fire by closing all doors, windows and other openings not required for ventilation, particularly out of working hours | Fire safety order regulations guidance requires all employees to be encouraged not to leave doors open unnecessarily. Shutters in operation. |  | **Acceptable** |
| **3.39** | **Remove/reduce sources of O2** | By shutting down ventilation systems which are not essential to the function of the premises | Not applicable. |  | **Acceptable** |
| **3.40** | **Remove/reduce sources of O2** | By not storing oxidising materials near or within any heat source or flammable materials | Not applicable. |  | **Acceptable** |
| **3.41** | **Detection and warning** | Can the existing means of detection ensure a fire can be discovered quickly enough for the alarm to be raised in time for all the occupants to escape to a place of total safety? | The site is small, and all areas are visited on a regular basis, therefore it is not considered necessary to install automatic detection systems. However, the rapid nature of thermal runaway with Lithium Systems may require automatic heat detection systems in the Discharging Area.Offices are protected by fire alarms with activation points centrally both upstairs and downstairs |  | **Action Needed** |
| **3.42** | **Detection and warning** | Are emergency detection and warning devices and other emergency equipment accessible at all times? | Manual detection deemed sufficient for low volume production. To be reviewed once in full operation. |  | **Acceptable** |
| **3.43** | **Detection and warning** | Are the detectors of the right type and in appropriate locations? | As 3.42 |  | **Acceptable** |
| **3.44** | **Detection and warning** | Manually operated call points (break glass system) | Two call points in the office; plant operations to be reviewed with Emergency plan |  | **Acceptable** |
| **3.45** | **Detection and warning** | Can the means of warning be clearly heard and understood by everyone throughout the whole building when initiated from a single point? | Verification through fire drills to take place annually; all visitors undertake site induction which includes awareness of emergency warnings - to be reviewed with Emergency Plan |  | **Acceptable** |
| **3.46** | **Detection and warning** | Are there provisions for people or locations where the alarm cannot be heard? | The alarm can be heard in all locations of the facility however the use of air horns to be considered when reviewing the emergency plan |  | **Acceptable** |
| **3.47** | **Detection and warning** | Is there a protocol for testing the alarm systems? | Yes, weekly and logs observed |  | **Acceptable** |
| **3.48** | **Detection and warning** | If the fire-detection and warning system is electrically powered, does it have a back-up power supply? | Yes - fully installed system by Chubb and serviced annually |  | **Acceptable** |
| **3.49** | **Detection and warning** | Are neighbouring premises that may be affected by the Company's actions informed? | To be reviewed through the Emergency Plan |  | **Acceptable** |
| **3.50** | **Portable fire extinguishers**  | Are the portable fire extinguishers or any fixed firefighting equipment provided suitable for controlling the risks identified? | Consideration has been given to installation of more major fire-fighting equipment such as foam generators or 3" deluge lines. Discussion with fire brigade is that we are better leaving larger fires to them, however this is under review |  | **Action Needed** |
| **3.51** | **Portable fire extinguishers**  | Are there enough extinguishers sited throughout the premises at appropriate locations? | Office - YesPlant – YesWorkshop - Yes |  | **Acceptable** |
| **3.52** | **Portable fire extinguishers**  | Are the right types of extinguishers located close to the fire hazards and can users get to them without exposing themselves to risk? | Office - YesPlant – YesWorkshop – Yes |  | **Acceptable** |
| **3.53** | **Portable fire extinguishers**  | Are the extinguishers visible or does their position need indicating? | Office - YesPlant – YesWorkshop - Yes |  | **Acceptable** |
| **3.54** | **Portable fire extinguishers**  | Have you taken steps to prevent the misuse of extinguishers? | Yes. Regular independent checks are undertaken. Any misuse would be discovered. |  | **Acceptable** |
| **3.55** | **Portable fire extinguishers**  | Do you regularly check equipment provided to help maintain the escape routes? | Yes. Regular checks are undertaken. Any misuse would be discovered. |  | **Acceptable** |
| **3.56** | **Portable fire extinguishers**  | Are those who test and maintain the equipment competent to do so? | Yes. Annual tests carried out by Chubb Ltd a well-known national company.  |  | **Acceptable** |
| **3.57** | **Fixed installations** | Hose reels - normally installed within the structure of the building. | There are no fixed installations on site - see 3.50 |  | **Action Needed** |
| **3.58** | **Fixed installations** | A concern is that untrained people will stay to fight a fire when escape is the safest option. | Emergency Plan Training |  | **Acceptable** |
| **3.59** | **Fixed installations** | Hose reels - have staff received appropriate training? | Not applicable. |  | **Acceptable** |
| **3.60** | **Fixed installations** | Hose reels - maintenance of hose reels include visual checks for leaks and obvious damage and should be carried out regularly. | Not applicable. |  | **Acceptable** |
| **3.61** | **Fixed installations** | Hose reels - maintenance by a competent person should be carried out annually. | Not applicable. |  | **Acceptable** |
| **3.62** | **Fixed installations** | Sprinkler systems - Routine maintenance by on-site personnel may include checking of pressure gauges, alarm systems, water supplies, any anti-freezing devices and automatic booster pumps. | Not applicable. |  | **Acceptable** |
| **3.63** | **Fixed installations** | Sprinkler systems - a competent maintenance contractor should provide guidance on what records need to be completed. | Not applicable. |  | **Acceptable** |
| **3.64** | **Firefighting - other facilities** | Access for fire engines and firefighters: | Should not present a problem, automatic gate can be manually overridden |  | **Acceptable** |
| **3.65** | **Firefighting - other facilities** | Fire engines need to approach and park within a reasonable distance to enable firefighters to use their equipment without too much difficulty. | Should not present a problem. |  | **Acceptable** |
| **3.66** | **Firefighting - other facilities** | Do you carry out daily checks to ensure that there is clear access for fire engines? | Yes, but not recorded |  | **Acceptable** |
| **3.67** | **Firefighting - other facilities** | The building may have firefighting shafts and lifts to help firefighters reach floors further away from the building’s access point. | Not applicable - none on site. |  | **Acceptable** |
| **3.68** | **Firefighting - other facilities** | There may be fire suppression systems, such as sprinklers or other types of fixed installations. | Not applicable - none on site. |  | **Acceptable** |
| **3.69** | **Firefighting - other facilities** | A competent person should maintain such systems. | Not applicable - none on site. |  | **Acceptable** |
| **3.70** | **Firefighting - other facilities** | Smoke control systems – designed to clear smoke and hot gases from the building. A competent person who is familiar with the performance specifications of that system should maintain these. | Not applicable - none on site. |  | **Acceptable** |
| **3.71** | **Firefighting - other facilities** | Dry and wet rising mains | Not applicable - none on site. |  | **Acceptable** |
| **3.72** | **Firefighting - other facilities** | A fire engine should be able to park within 18 metres of the inlet box. | Not applicable - none on site. |  | **Acceptable** |
| **3.73** | **Firefighting - other facilities** | Car parking must be prohibited in front of the inlet box. | Not applicable - none on site. |  | **Acceptable** |
| **3.74** | **Firefighting - other facilities** | Foam inlets | Not applicable - none on site. |  | **Acceptable** |
| **3.75** | **Firefighting - other facilities** | Should be clearly marked ‘foam inlet.’ | Not applicable - none on site. |  | **Acceptable** |
| **3.76** | **Firefighting - other facilities** | Should be maintained on a regular basis. | Not applicable - none on site. |  | **Acceptable** |
| **3.77** | **Firefighting - other facilities** | Firefighters switches: | Not applicable - none on site. |  | **Acceptable** |
| **3.78** | **Firefighting - other facilities** | Safety switches to isolate high voltage luminous signs or cut off electrical power. Testing should be carried out in accordance with manufacturer’s instructions. | Not applicable - none on site. |  | **Acceptable** |
| **3.79** | **Firefighting - other facilities** | Other firefighting facilities to assist firefighters, e.g. information signs, water supplies and hydrants, standby fire pumps, electrical fire generators etc | Not applicable - none on site. |  | **Acceptable** |
| **3.80** | **Firefighting - other facilities** | Information to assist firefighters; | Tracking records & site plans are available on-line and accessible remotely |  | **Acceptable** |
| **3.81** | **Escape routes** | Is your building constructed, particularly in the case of multi-storey buildings, so that, if there is a fire, heat and smoke will not spread uncontrolled through the building to the extent that people are unable to use the escape routes? | Plans showing construction details are not available it is therefore difficult to judge the fire-resistant qualities of site buildings |  | **Action Needed** |
| **3.82** | **Escape routes** | Are any holes or gaps in walls, ceilings and floors properly sealed, e.g. where services such as ventilation ducts and electrical cables pass through them? | Walls and ceilings appear to be sound in this respect. |  | **Acceptable** |
| **3.83** | **Escape routes** | Are the widths of escape routes and the distances which need to be travelled such that all the occupants can escape to a place of total safety in a reasonable time? | Main office building - two-storey, ground and one upper floor: Width of stairway is adequate, being more than 750mm. The recommended maximum range of travel for a normal-risk area is 25 metres, and 45 metres for a lower-risk area. People employed on the upper floor would not have to travel further than these distances in order to leave the building. |  | **Acceptable** |
| **Escape routes** | Workshop – two pedestrian fire exit doors to the front and rear, with 2 further roller shutter doors expected to be open during normal operation as additional emergency egress.  |  | **Acceptable** |
| **Escape routes** | Other areas of the site are less confined relatively easy access to a place of total safety. |  | **Acceptable** |
| **3.84** | **Escape routes** | Are the exits in the right place and do the escape routes lead as directly as possible to a place of total safety? | Upper office has two methods of exit to include emergency ladder. Lower Office has two methods of exit with both front and rear exits |  | **Acceptable** |
| Other areas of the site are less confined relatively easy access to a place of total safety. |  | **Acceptable** |
| **3.85** | **Escape routes** | Are the existing escape routes adequate for the number and type of people that may need to use them, e.g. staff, contractors and disabled people? | Yes |  | **Acceptable** |
| **3.86** |  | Are there any inner rooms with just one means of escape and do they have measures in place to alert occupants of a fire? They must not be of a high fire risk | Main office block: There are 5 offices upstairs exhibiting low to normal risk and 3 lab areas which open onto the central corridor with egress only 1mtr away. All areas are within proximity to audible fire alarms |  | **Acceptable** |
| **3.87** | **Escape routes** | If there is a fire, could all available exits be affected or will at least one route from any part of the premises remain available? | There will always be egress available |  | **Acceptable** |
| **3.88** | **Escape routes** | Are the escape routes and final exits kept clear at all times? | Yes. |  | **Acceptable** |
| **3.89** | **Escape routes** | Do the doors on escape routes open in the direction of escape? | No |  | **Acceptable** |
| **3.90** | **Escape routes** | Can all final exit doors be opened easily and immediately if there is an emergency? | Yes. |  | **Acceptable** |
| **3.91** | **Escape routes** | Will everybody be able to safely use the escape routes from your premises? | Currently yes, to be reviewed during induction of new employees |  | **Acceptable** |
| **3.92** | **Escape routes** | Are the people who work in the building aware of the importance of maintaining the safety of the escape routes, e.g. by ensuring that fire doors are not wedged open and that combustible materials are not stored within the escape route? | Through emergency drills, effects of cluttered escape routes are highlighted and learning shared |  | **Acceptable** |
| **3.93** | **Escape routes** | Are there any particular or unusual issues to consider? | No other than the above observations. |  | **Acceptable** |
| **3.94** | **Escape routes** | Are fire assembly points located in safe areas, clear of the building and away from Fire Brigade access and parking? | Yes. Outside main entrance gate there is a large area for congregation away from vehicle access areas |  | **Acceptable** |
| **3.95** | **Escape routes** | Drills | Records kept in Fire Alarm Log |  | **Acceptable** |
| **3.96** | **Lighting** | Are your premises used during periods of darkness? | Yes, particularly during winter months. |  | **Acceptable** |
| **3.97** | **Lighting** | Will there always be enough lighting to safely use escape routes? | No emergency lighting available in the main office block or production building  |  | **Action Needed** |
| **3.98** | **Lighting** | Do you have back-up power supplies for your emergency lighting? | No. |  | **Action Needed** |
| **3.99** | **Signs and notices** | Where necessary, are escape routes and exits, the locations of firefighting equipment and emergency telephones indicated by appropriate signs? | Escape routes have been identified and labelled however there is room for improvement - to be reviewed with Emergency Plan |  | **Acceptable** |
| **3.100** | **Signs and notices** | Have you provided notices such as those giving information on how to operate security devices on exit doors, those indicating doors enclosing fire hazards that must be kept shut and fire actions for staff and other people? | Fire action notices are in place with extinguishers. Compartments housing hazardous areas, such as the main electrical switch house need to be appropriately signed. |  | **Action Needed** |
| **3.101** | **Signs and notices** | Are you maintaining signs that you have provided for the information of the fire and rescue service, such as those indicating the location of water suppression stop valves and the storage of hazardous substances? | No. |  | **Action Needed** |
| **3.102** | **Maintenance** | Do you regularly check all fire doors and escape routes and associated lighting and signs? | Yes, but review with Emergency Plan |  | **Acceptable** |
| **3.103** | **Maintenance** | Do you regularly check all your firefighting equipment? | Independent checks are made by Chubb  |  | **Acceptable** |
| **3.104** | **Maintenance** | Do you regularly check your fire-detection and alarm equipment? | The fire-detection system is checked regularly by Chubb, ad-hoc smoke detection is checked audibly |  | **Acceptable** |
| **3.105** | **Maintenance** | Do you keep a logbook to record tests and maintenance? | Yes |  | **Acceptable** |

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| **PART 4 RECORD, PLAN, INFORM, INSTRUCT and TRAIN**  | **FINDINGS** | **Ref** | **RATING** |
| **4.1** | **Records** | Have you recorded the significant findings of your assessment? | Yes, refer to this report. |  | **Acceptable** |
| **4.2** | **Records** | Have you recorded what you have done to remove or reduce the risk? | Yes, recommendations made - refer to this report. |  | **Acceptable** |
| **4.3** | **Records** | Are your records available for inspection by the enforcing authority? | Yes. |  | **Acceptable** |
| **4.4** | **Records** | Are appropriate records kept of all tests and maintenance? | Yes. |  | **Acceptable** |
| **4.5** | **Records** | Are appropriate records kept of fire evacuation drills? | Yes. |  | **Acceptable** |
| **4.6** | **Records** | Are appropriate records kept of fire training? | Improvement Required |  | **Acceptable** |
| **4.7** | **Records** | Are copies of the risk assessment(s) and emergency action plan(s) kept in a safe place away from the premises? | Yes. Retained in electronic format 'cloud' |  | **Acceptable** |
| **4.8** | **Plans and specifications** | Do plans & specifications include for essential structural features such as the layout of function rooms, escape doors, wall partitions, corridors etc | Unable to view site plans - not available at the time of the assessment. Information regarding construction and fire-resistance of materials therefore not available. |  | **Action Required** |
| **4.9** | **Plans and specifications** | Any fire-resisting structure and self-closing fire doors provided to protect the escape routes | Unable to view site plans - not available at the time of the assessment. Information regarding construction and fire-resistance of materials therefore not available. |  | **Action Required** |
| **4.10** | **Plans and specifications** | Location of refuges and lifts that have been designated as suitable for use by disabled people and others who might need assistance to escape in case of fire | Not applicable. |  | **Acceptable** |
| **4.11** | **Plans and specifications** | Methods for fighting fire (details of the number, type and location of firefighting equipment) | Yes |  | **Acceptable** |
| **4.12** | **Plans and specifications** | Location of manually-operated fire alarm call points and control equipment for fire alarms | Recommend the locations of the air horns be incorporated into site plans. |  | **Acceptable** |
| **4.13** | **Plans and specifications** | Location of any control rooms and any fire staff posts | Not applicable. |  | **Acceptable** |
| **4.14** | **Plans and specifications** | Location of any emergency lighting equipment and the exit route signs | Recommend the locations of the emergency lighting be incorporated into site plans once installed.  |  | **Action Required** |
| **4.15** | **Plans and specifications** | Location of any high-risk areas, equipment or process that must be immediately shut down by staff on hearing the fire alarm | Recommend the locations of high-risk areas, equipment or process that must be immediately shut down by staff on hearing the fire alarm be incorporated into site plans. |  | **Acceptable** |
| **4.16** | **Plans and specifications** | Location of any automatic fire-fighting systems, risers and sprinkler control valves | Not applicable. |  | **Acceptable** |
| **4.17** | **Plans and specifications** | Location of the main electrical supply switch, the main water shut-off valve and, where appropriate, the main gas or oil shut-off valves | Yes |  | **Acceptable** |
| **4.18** | **Plans and specifications** | Plans and specifications relating to all recent constructions. | Yes |  | **Acceptable** |
| **4.19** | **Plans and specifications** | Assembly points | Yes |  | **Acceptable** |
| **4.20** | **Emergency Plans** | Do you have an emergency plan and, where necessary, have you recorded the details? | Yes |  | **Acceptable** |
| **4.21** | **Emergency Plans** | Does your plan take account of other emergency plans applicable to the same building? | Yes, building is shared between Owner and Tennant, plan is shared. |  | **Acceptable** |
| **4.22** | **Emergency Plans** | Is the plan readily available for the staff to read? | Yes. |  | **Acceptable** |
| **4.23** | **Emergency Plans** | Is the emergency plan available to the enforcing authority? | Plan will be made available after review |  | **Acceptable** |
| **4.24** | **Do they cater for the following?** | How people will be warned in the event of a fire? | Section 2.4 ‘Raising the Alarm'. |  | **Acceptable** |
| **4.25** | **Do they cater for the following?** | What staff should do if they discover a fire? | Section 3.1 evacuate the site. |  | **Acceptable** |
| **4.26** | **Do they cater for the following?** | How the evacuation of the premises should be carried out | Set out in sections 3.1 and 3.2.  |  | **Acceptable** |
| **4.27** | **Do they cater for the following?** | Location of assembly points and procedures for checking whether the premises have been evacuated | Set out in section 3.2.  |  | **Acceptable** |
| **4.28** | **Do they cater for the following?** | Identification of key escape routes, how people can gain access to them and escape from them to a place of total safety | Set out in sections 3.2 and 5.7.2.  |  | **Acceptable** |
| **4.29** | **Do they cater for the following?** | Arrangement for fighting the fire | Staff members are only permitted to fight a fire if trained and competent to do so. Additionally, staff are only to fight small fires and look to exit the incident area at the earliest opportunity |  | **Acceptable** |
| **4.30** | **Do they cater for the following?** | The duties and identity of staff who have specific responsibilities if there is a fire | Set out in section 6.1. |  | **Acceptable** |
| **4.31** | **Do they cater for the following?** | Arrangements for the safe evacuation of people identified as being especially at risk, such as those with disabilities, lone workers etc | Currently no requirement to cater for lone-workers or workers with disabilities but this will be reviewed during induction processes |  | **Acceptable** |
| **4.32** | **Do they cater for the following?** | Any machines/appliances/processes/power supplies that need to be stopped or isolated if there is a fire | Set out in section 6.1. |  | **Acceptable** |
| **4.33** | **Do they cater for the following?** | Specific arrangements, if necessary, for high-fire-risk area |  There are currently no High fire risk areas on site. This will be reviewed upon site alteration and in the event that the permit system does not cover the intended operation.  |  | **Acceptable** |
| **4.34** | **Do they cater for the following?** | Contingency plans for when life safety systems such as evacuation lifts, fire detection and warning systems, sprinklers or smoke control systems are out of order | Not applicable. |  | **Acceptable** |
| **4.35** | **Do they cater for the following?** | How the fire and rescue service and any other necessary services will be called and who will be responsible for doing this | Set out in section 3. |  | **Acceptable** |
| **4.36** | **Do they cater for the following?** | Procedures for meeting emergency services on their arrival and notifying them of any special risks, e.g. the location of highly flammable materials | Off-site Controller' as set out in section 5.5. |  | **Acceptable** |
| **4.37** | **Do they cater for the following?** | What training employees need and the arrangement for ensuring the training is given; | Section 5.1 - "It is the responsibility of the Operations Manager to ensure that all personnel based at the site are fully conversant with the requirements of the Site Emergency Plan." |  | **Acceptable** |
| **4.38** | **Do they cater for the following?** | Phased evacuation plans (where some areas are evacuated while others are alerted but not evacuated until later) | Not applicable. |  | **Acceptable** |
| **4.39** | **Do they cater for the following?** | Plans to deal with people once they have left the premises | Not specifically listed. |  | **Acceptable** |
| **4.40** | **Do they cater for the following?** | Getting away from the premises (e.g. to transport) | Not specifically listed. |  | **Acceptable** |
| **4.41** | **Do they cater for the following?** | Inclement weather; | Not specifically listed. |  | **Acceptable** |
| **4.42** | **Co-ordination and co-operation** | Have you told your staff about the emergency plan? | Emergency plan will be issued to employees after review |  | **Acceptable** |
| **4.43** | **Co-ordination and co-operation** | Have you informed guests and visitors about what to do in an emergency? | Guests and visitors would be accompanied at all times. |  | **Acceptable** |
| **4.44** | **Co-ordination and co-operation** | Have you identified people you have nominated to do a particular task? | Yes, sections 4 and 5 of the site emergency plans set out roles and responsibilities. |  | **Acceptable** |
| **4.45** | **Co-ordination and co-operation** | Have you given staff information about dangerous substances? | COSSH Training is underway and under constant review |  | **Acceptable** |
| **4.46** | **Co-ordination and co-operation** | Do you have arrangements for informing temporary of agency staff? | Temporary staff subject to site induction procedures. |  | **Acceptable** |
| **4.47** | **Co-ordination and co-operation** | Do you have arrangements for informing other employers whose staff are guest workers in your premises, such as maintenance contractors and cleaners? | Contractors should be subject to site induction and the permit-to-work system. |  | **Acceptable** |
| **4.48** | **Co-ordination and co-operation** | Have you co-ordinated your fire safety arrangements with other responsible people and with any contractors in the building? | Yes |  | **Acceptable** |
| **4.49** | **Co-ordination and co-operation** | Have you recorded details of any information or instructions you have given and the details of any arrangements for co-operation and co-ordination with others? | Attachment 9 of the site emergency plan shows key contact details, including neighbouring premises. |  | **Acceptable** |
| **4.50** | **Training** | Has your staff received any fire safety training? | Details kept up to date on the training matrix  |  | **Action Required** |
| **4.51** | **Training** | Has your staff received training in the use of fire extinguishers? | Details kept up to date on the training matrix  |  | **Action Required** |
| **4.52** | **Training** | Has your staff received training in the use of other fire and emergency equipment, e.g. fire hoses? | Not applicable currently. |  | **Acceptable** |
| **4.53** | **Training** | Have you carried out a fire drill recently? | Details kept up to date in the fire diary  |  | **Action Required** |
| **4.54** | **Training** | Are employees aware of specific tasks if there is a fire? | Details kept up to date on the training matrix |  | **Action Required** |
| **4.55** | **Training** | Are you maintaining a record of training sessions? | Yes |  | **Action Required** |
| **4.56** | **Training** | Do you carry out joint training and fire drills in multi-occupied buildings? | Yes |  | **Action Required** |
| **4.57** | **Training** | If you use or store hazardous or explosive substances have your staff received appropriate training? | Plant & Laboratory Manager fully qualified chemist. Technical operatives have experience in handling chemicals.  |  | **Action Required** |
| **4.58** | **Training - include the following:** | The items listed in the emergency plan | Emergency Plan Training ongoing |  | **Action Required** |
| **4.59** | **Training - include the following:** | The safe use of and risks from storing or working with highly flammable and explosive substances | HS(G)71 protocols are in place |  | **Action Required** |
| **4.60** | **Training - include the following:** | The importance of fire doors and other basic fire-preventive measures | Yes-emergency plan and fire drills |  | **Action Required** |
| **4.61** | **Training - include the following:** | How to raise the alarm and what happens then | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.62** | **Training - include the following:** | What to do upon hearing the fire alarm | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.63** | **Training - include the following:** | The procedures for alerting contractors and visitors including, where appropriate, directing them to exits | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.64** | **Training - include the following:** | The arrangements for calling the fire and rescue services | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.65** | **Training - include the following:** | Where relevant, the appropriate use of firefighting equipment | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.66** | **Training - include the following:** | The evacuation procedures for everyone in your factory/warehouse to reach an assembly point at a place of total safety | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.67** | **Training - include the following:** | Exit routes and the operation of exit devices, including physically walking these routes | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.68** | **Training - include the following:** | The importance of keeping fire doors closed to prevent the spread of fire, heat and smoke | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.69** | **Training - include the following:** | Where appropriate, how to stop machines and processes and isolate power supplies in the event of a fire | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.70** | **Training - include the following:** | General matters such as permitted smoking areas or restrictions on cooking other than in designated areas | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.71** | **Training - include the following:** | Assisting disabled persons where necessary | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.72** | **Training - include the following:** | Staff expected to undertake the role of fire marshals/fire wardens would require more comprehensive training, and their role should be clearly laid down. | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.73** | **Training - include the following:** | Fire drills should be conducted at least annually or as determined by the fire risk assessment. | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.74** | **Training - include the following:** | Throughout the drill the responsible person and nominated observers should take note of any difficulties encountered during the drill. | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.75** | **Training - include the following:** | Reports from fire marshals/wardens/observers should be collated and reviewed. Any conclusions and remedial actions should be recorded and implemented. | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.76** | **Training - include the following:** | The importance of general fire safety, which includes good housekeeping. | Yes - emergency plan and fire drills |  | **Action Required** |
| **4.77** | **Training - include the following:** | Are the people who work in the building aware of the importance of maintaining the safety of the escape routes, e.g. by ensuring that fire doors are not wedged open and that combustible materials are not stored within the escape route? | Yes - emergency plan and fire drills |  | **Action Required** |

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| **Fire Risk Assessment - Record of significant findings** |
| **Location** | **Assessment undertaken on/by** |
| Company | LiBatt Recycling Limited | Date |  |
| Address | Lincoln Street |   |
| Wolverhampton | Completed by |  |
| WV10 0DX |  |  |   |
|  | Signature |

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| **For the purposes of the fire risk assessment the site is sub-divided into the following areas (see site plan):** |
| **Area assessed** | **Use** |
| LOCATION ZONE 1 | *Workshop Inbound Storage* |
| LOCATION ZONE 2 | Triage Workshop |
| LOCATION ZONE 3 | *Inbound Processing Storage* |
| LOCATION ZONE 4 | Processing feed Area |
| LOCATION ZONE 5 | Processing and Processed material collection |
| LOCATION ZONE 6 | *Pre-Cursor Processing* |
| LOCATION ZONE 7 | *Processed Material Storage* |
| LOCATION ZONE 8 | Maintenance Workshop |
| LOCATION ZONE 9 | *Quarantine and Mass Balance Area* |
| LOCATION ZONE 10 | *Re-Certification Storage* |
| LOCATION ZONE 11 | Office and Facilities |
| LOCATION ZONE 12 | *Gate house & Driver Facilities* |
| LOCATION ZONE 13 | Exterior Yard General. |



Figure 1: Site Zone Drawing

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| **Fire hazards** |
| **Sources of Ignition** | **Sources of Fuel** | **Sources of Oxygen** |
| Fork Lift Truck/Mobile Plant | Flammable Liquid Based Wastes | Sodium Hydrochloride (47%) |
| Naked Flame (Flashpoint/Bunsen Burner) | Combustibles in Offices, Stores and Workshop | Otherwise - natural sources |
| Petrol - Driven Vehicles | Oxy/acetylene Set |   |
| Closed Element Electrical Heaters | Laboratory Chemicals & Reagents |   |
| Untested Electrical Equipment | Petrol Driven Vehicles |   |
| Laboratory Fume Hood Ducting | Gas Oil Store (Mobile Plant/Boilers) |   |
| Hot Work (Welding, Cutting, Grinding) | P10 Gas Cylinder |   |
| Cooking Equipment | Flammable Atmosphere (Haz Waste) |   |
| Laboratory Ovens/Furnace/Digester | Waste Aerosols |   |
| Faulty/Uninsulated Electrical Equipment | Plastic & Wooden Storage Aids (I.B.C's, Pallets) |   |
| Arson | Office/General Waste |   |
| Friction Generated From Machinery |   |   |
| Naked Flame (Smoking Area) |   |   |

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| **People at risk** |
| Plant & Laboratory Manager | Drivers (A.W.S) |
| Technical Operatives | Contractors |
| Seven Drivers (Waste Oil Collectors) | Site Visitors |
| Visiting Contractors | General Public |
| Directors (AWS) |  |
| Office Staff (AWS) |  |

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| **Issues Raised in Each Area** | Likelihood | Severity | Risk Rating |
| **LOCATION ZONE 1** |
| Location currently not operational  |   |   |   |
| **LOCATION ZONE 2** |   |   |   |
| **Fire extinguishers not mounted**Mount fire extinguishers in desinated areas |   |   |   |
| **Fire Exit need guards for safe exit** Fire exits to have walkway guards, inside and out |   |   |   |
| **Improve fire alert from Air horn/bell system**Fit additional electronic call points |   |   |   |
|  |   |   |   |
| **LOCATION ZONE 3** |   |   |   |
| Location currently not operational |   |   |   |
| **LOCATION ZONE 4** |   |   |   |
| Location currently not operational – Commissioning Activities – Dynamic Risk Assessment & Infrequent Operation Permitting. |   |   |   |
| **LOCATION ZONE 5** |   |   |   |
| Location currently not operational – Commissioning Activities – Dynamic Risk Assessment & Infrequent Operation Permitting. |   |   |   |
| **LOCATION ZONE 6** |  |  |  |
| Location currently not operational |  |  |  |
| **LOCATION ZONE 7** |   |   |   |
| Location currently not operational |   |   |   |
| **LOCATION ZONE 8** |   |   |   |
| **Fire Extinguishers to be installed**  |   |   |   |
| **Manual Call point to be installed**  |  |  |  |
| **LOCATION ZONE 9** |  |  |  |
| Location currently not operational |  |  |  |
| **LOCATION ZONE 10** |  |  |  |
| Location currently not operational  |  |  |  |
| **LOCATION ZONE 11** |  |  |  |
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| **LOCATION ZONE 12** |  |  |  |
| Location currently not operational |  |  |  |
| **LOCATION ZONE 13** |  |  |  |
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| **OTHER AREAS/GENERAL SITE ISSUES** |   |   |   |
| Use non-combustible building materials for future building modifications. |   |   |   |
| Consider removing or treating large areas of highly combustible wall and ceiling linings to reduce the rate of flame spread across the surface. |   |   |   |
| At present there is no information to assist fire and emergency services outside normal working hours. |   |   |   |
| A review should be undertaken to ensure that appropriate records are kept of all tests and maintenance of equipment and infrastructure relating to fire safety. |   |   |   |
| Unable to view site plans - not available at the time of the assessment. Information regarding construction and fire-resistance of materials therefore not available. |   |   |   |
| High-risk areas, equipment or process that must be immediately shut down by staff on hearing the fire alarm should be incorporated into site plans. |   |   |   |
| All training-related issued raised in the report must be addressed in a timely manner. |   |   |   |

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| **Assessment review** |
| **To be completed by the 'responsible person for the Site/Function in the event of significant changes to processes or infrastructure**  |
| Comments |
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| **Assessment review date** | **Completed by** | **Signature** |

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| **Fire Risk Assessment - Action Plan** |
| **Location** |
| Company | LiBatt Recycling Limited |
| Address | Lincoln Street |
| Wolverhampton |
| WV10 0DX  |
| **Ref No.** | **Action Required** | **By Whom** | **Target Date** | **Date Completed** |
| 1.14 | Implement a service plan for pumps and mixers |   |   |   |
| 3.33 | Use non-combustible materials for all future building work |   |   |   |
| 3.34 | Use non-combustible materials for all future building work |   |   |   |
| 3.46 | Review the use of air horns for alerting remote areas of the site.  |   |   |   |
| 3.81 | Find construction plans |   |   |   |
| 3.84 | See 3.11 |   |   |   |
| 3.97 | Install emergency lighting |   |   |   |
| 3.98 | See 3.97 |   |   |   |
| 3.100 | Install appropriate signage |   |   |   |
| 3.101 | Maintain signage once installed 3.100  |   |   |   |
| 4.8 | See 3.81 |   |   |   |
| 4.9 | See 3.81 |   |   |   |
| 4.12 | See 3.46 |   |   |   |
| 4.14 | Reference emergency lighting on site plan once installed  |   |   |   |
| 4.15 | Determine high risk areas and operations that need to be shut down in case of fire. Give appropriate training |   |   |   |
| 4.55 | See 4.54 |   |   |   |