

Waste & Recycling Sector Workplan 2018-19: Targeted Inspections

Open Government status: Open

Audience: FOD Inspectors, Mechanical, Occupational Hygiene & Process Safety Specialists

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1. Inspection programme

1.1. What are we inspecting and why?

The purpose of this inspection programme is to target waste and recycling sites. The Waste & Recycling sector has one of the highest rates of workplace injury and work-related ill-health of all the main industry sectors.

This is a long-term intervention aimed at delivering sustained industry improvements in risk control particularly transport, machinery guarding and isolation and exposure to carcinogens (asbestos & refractory ceramic fibres RCF)

1.2. What is the extent of the problem?

There have been 39 worker and 11 member of the public fatalities over the last 5 years. Main causes of fatal injury are transport, machinery & struck by objects. The fatality rate is 15 times greater than the rate across all industries and 3 times higher than the rate in construction.

6,000 workers (around 4.8% of workers) suffer from a work-related illness each year. Ill health types include musculoskeletal disorders & Occupational Lung Disease (OLD) – linking in with the [Health & Work strategy](#). The rate is statistically higher than the rate for workers across all industries (3.2%)

5,000 non-fatal injuries to workers each year (around 4% of workers). The rate is statistically significantly higher than the rate for workers across all industries (1.9%). Main kind of accidents involve slips & trips, falls from height and lifting & handling

1.3. What must be covered at the inspections?

- The key safety risks from transport and machinery through suitable control measures
- The key health risks of exposure to asbestos and refractory ceramic fibres (RCF) through an assessment of the management arrangements for preventing and / or controlling the risk of exposure
- Any matters of evident concern (MEC) – see [Appendix 5.2](#)
- Any matters of potential major concern (MPMC) - see [Appendix 5.2](#)

1.4. What sectors and topics are we inspecting and when?

Sub Sector	Topic(s)	When
Catalytic Converter Recycling sites	RCF Machinery Transport	Q3 joint visits with Occupational Hygiene Specialist Inspector
Waste sites – all types	Transport Machinery Asbestos	Q3
National Companies as specified by Sector	Transport Machinery Asbestos	Q3
National Companies Head Office visit	Management systems	End of Q3
Impact Evaluation inspections	Transport Machinery Asbestos	Q3

Further information on targeting of premises including SIC codes is contained in the [Targeting & Intelligence Guide](#)

1.5. Application of the Enforcement Management Model (EMM)

See Section 5.3 for EMM Initial Enforcement Expectations and industry appendix pages.

2. Guidance & Support Available

Specialist Support type	Relevant specialist
RCF & Asbestos Control strategies & enforcement	Occupational Hygiene Specialist Inspectors
Machinery Safety Standards	Mechanical Specialist Inspectors
Transport Safety Standards	Mechanical Specialist Inspectors (vehicle) Construction Specialist Inspectors (site)
Anaerobic digestion and Energy from Waste	Process Safety
Industry standards & enforcement benchmark	Waste and Recycling Sector wasteandrecycling@hse.gov.uk

Important Other Guidance for Inspections	Guidance location
Machinery Information sheets (internal only)	FISH
Waste Industry Safety and Health Forum (WISH) guidance – the industry standards for benchmarking	WISH GUIDANCE

The above support and guidance is supplemented by in-year work briefings, webinars and targeted sector-specific training.

3. Recording of inspections

Answers to the following six questions must be recorded in the text area of the appropriate 'risk area' under DO IT. Answers should be kept short and succinct but include sufficient information to give a clear understanding of the issues and action taken.

Capturing this information is essential to enable us to effectively analyse the inspection outcomes and impact.

Questions

1. What processes are carried out and equipment used?
2. Are the control measures used, checked and maintained?
3. What are the specific control failings?
4. Are there any management failings such as training, instruction etc.?
5. Was there any SG involvement?
6. Was there a Material Breach(es) or Enforcement action taken?

The following structure should be used (including the question number):

Q1: [answer]
Q2: [answer]
Q3: [answer]
Q4: [answer]
Q5: [answer]
Q6: [answer]

4. Health and Safety

Sub-sector-specific health & safety information is detailed in the appendices [5.1.1. – 5.1.13](#). General health & safety information for visiting staff is on the [intranet](#)

The inspection of waste & recycling sites does not automatically necessitate the need for additional health and safety precautions e.g. two-person inspections.

Inspectors are particularly reminded of the need to wear appropriate safety footwear (ankle support, mid-sole protection, steel toe caps) and a high visibility tabard or jacket. Other PPE maybe required dependent on-site rules / conditions e.g. eye protection, hearing protection and hard hat.

Appendix 5.1. Industry specific information, Initial Enforcement Expectation (IEE) tables and examples of Matters of Potential Major Concern (MPMC)

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Appendix 5.1.1: Anaerobic Digestion

Introduction

Anaerobic Digestion (AD) is the simple, natural breakdown of organic matter (such as commercial and household food waste, garden waste and farm slurry) into carbon dioxide, methane and water, by two groups of microorganisms, bacteria and archaea. Since many of these are intolerant to oxygen, this process is known as anaerobic. There are two main types of AD called thermophilic and mesophilic (the primary difference between them being that thermophilic processes reach temperatures of up to 60°C and mesophilic normally runs at about 35-40°C).

The main products resulting from the AD process is a mixture of methane and carbon dioxide gases (biogas), water and organic material (digestate). Biogas can be burned to produce both heat and electricity, while methane can be used as vehicle fuel or injected into the gas grid. Digestate is a stable, nutrient-rich substance and can be used for a range of products and purposes: most usefully as a fertiliser, rich in nutrients, but also as feedstock for ethanol production, and in low-grade building materials, like fibreboard. Water, after treatment within the AD process, may be returned to the watercourses.

This is a very diverse sector with multiple technologies being developed on a range of scales, from the small-scale farm processing animal manure through to large industrial scale premises processing sewage sludge, and municipal waste. All processes will contain DSEAR and process safety related risks, but the extent of these risks will differ depending on the size and complexity of the plant and/or processes.

Health and safety

Check and follow site rules regarding RPE, PPE & equipment throughout the inspection.

If areas of site have been designated as requiring RPE, do not enter and seek advice from Occupational Hygiene Specialist Inspectors if access is required.

If areas have been classified as having (potential) explosive and/or flammable atmospheres – do not use equipment unless it is intrinsically safe in these areas.

Be aware of risks whilst working in close proximity to vehicles.

Ensure good personal hygiene and wash hands on leaving site.

Inspection

Establish the contractual arrangements for the operation and management of the site to allocate responsibilities to the correct duty holder.

Inspect in accordance with priorities below. Due to the technical nature of the processes, Inspectors will need to seek assistance from their local Process Safety Specialist Inspectors if they have concerns about explosion risks.

Identify and record the following information on your inspection case as per Section 3.

Priorities

Transport

Safe site

- Have they assessed the risks from workplace transport at the site?
- Is there a clear directional flow of traffic around the site?
- Has a one-way system been considered/implemented?
- Has reversing been eliminated safely?
- Are vehicles suitably segregated from pedestrians?
- Have blind corners been eliminated? If not, have mirrors etc. been introduced to improve a driver's view of obscured areas?
- Have risks arising from reverse tipping been controlled eg to prevent vehicles reversing into reception pits?

Safe vehicles

- Are all vehicles fit for use and suitable for the activities they are performing?
- Are all brakes, lights, mirrors, horns etc. suitably maintained?
- Have reversing alarms/beacons been fitted?
- Have all lifting equipment and accessories been thoroughly examined?

Safe drivers

- Are only trained workers allowed to drive vehicles?
- Are there clear instructions for visiting drivers?
- Are visiting drivers supervised and monitored whilst on site?

Machinery

- Has access to all dangerous parts of the machine been eliminated or restricted sharp?
- Is guarding fixed or interlocked (if access required)?
- Are all in-running nips on conveyors guarded (safe by position for operation does not mean safe by position for maintenance)?
- Is there a daily / pre-shift guard check system in place?
- How are machines maintained and/or cleaned?
- How are blockages removed from machines?
- Can the machine be isolated and locked off (e.g. maintenance or clearing blockages)?
- Are there the means to lock off e.g. personal padlocks, multiclasp locks?
- Have all operators been suitably trained in the use of the machine they are operating?
- Have risk assessments considered engineering/maintenance activities?

DSEAR

NB All AD processes will contain risks from dangerous substances and explosive atmospheres.

- Has a suitable and sufficient DSEAR assessment been undertaken? e.g.:
 - Have the risks arising from dangerous substances been identified and controlled?
 - have any areas of the workplace where explosive atmospheres may occur been identified and classified, and measures taken to avoid ignition sources?
 - have plans and procedures been developed to deal with accidents, incidents and emergencies and cascaded to staff?

Asphyxiation / Confined Spaces

- Have all areas likely to be designated as "confined spaces" been identified and risks suitably assessed?
- Have the risks associated with working in an oxygen deficient atmosphere been suitably assessed?
- Have the asphyxiation risks associated with Hydrogen Sulphide exposure been assessed; including use of fixed and / or portable detectors?
- Is it possible to perform the work without the need to enter the confined space?
- Have suitable and sufficient arrangements been introduced to ensure persons (including contractors) required to work in a confined space are not placed at risk (eg planned, safe system of work, suitable equipment, competent workers, emergency rescue procedures, etc)?

Bioaerosols

- Are they aware of risks associated with bioaerosols? NB. Due to the nature of waste being processed, unless proven otherwise, asthmagens are presumed to be present and therefore the necessary control measures should be implemented.
- Has the increased risk of bioaerosol generation during cleaning/maintenance been considered?
- Have tasks generating aerosols (e.g. pressure hosing or dry sweeping) been eliminated or appropriately controlled?
- If employees will be unavoidably exposed to bioaerosols, has the appropriate RPE and PPE been provided (e.g. FFP3 or air-fed masks)?

Musculoskeletal Risks (MSDs)

- Have the risks associated with manual handling activities been suitably assessed?
- Are there opportunities to use mechanical aids to replace manual handling?
- Are workers appropriately trained?

Guidance

HSE webpage "Disposal and energy recovery" <http://www.hse.gov.uk/waste/disposal.htm>

ADBA "Best Practice Checklists" <http://adbioresources.org/our-work/best-practice-scheme/best-practice-checklists>

[WISH Info 02](#) - Practical advice on lock-off recycling/recovery machinery

[Waste 09](#) - Safe transport at waste and recycling sites

<http://www.hse.gov.uk/pUbns/priced/l101.pdf> - "Safe work in confined spaces" Approved Code of Practice and guidance L101.

<http://www.hse.gov.uk/pubns/guidance/oce6.pdf> - "Hydrogen sulphide" OCE6

Contacts
wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3 in addition to those listed below

Potential Catastrophic Event:	Due to:	Examples of indicative issues:	Existing Guidance:
Exposure to oxygen deficient atmospheres; exposure to noxious / toxic gases; engulfment (solids / liquids).	Entry into a confined space / tanks / silos	Need to enter confined space has not been designed-out.	http://www.hse.gov.uk/pubns/priced/l101.pdf
		Lack of / inadequate safe system of work for necessary confined space entry.	
	Uncontrolled release of Hydrogen Sulphide	Failure to maintain plant	http://www.hse.gov.uk/pubns/guidance/oce6.pdf
		Failure to use detectors to monitor for accidental release	
Fire & explosion.	Ignition of flammable gases (e.g. methane, hydrogen sulphide).	Inadequate control/release of combustible and flammable liquids/gases.	http://www.hse.gov.uk/fireandexplosion/about.htm
		Inadequate control of ignition sources in hazardous areas e.g. non-ATEX certified equipment, ineffective permits for hot work etc.	http://www.hse.gov.uk/fireandexplosion/ds-ear-regulations.htm
		Inadequate explosion relief	INDG370(rev1) Controlling Fire and Explosion Risks in the Workplace
		Inadequate storage and use of flammable liquids.	HSG 51 Safe Storage of Flammable Liquids
			HSG 140 Safe Handling and Use of Flammable Liquids

Appendix 5.1.2: Catalytic Converter Recycling

Introduction

Catalytic converters are emission control devices fitted to a vehicle exhaust system. They have a ceramic monolith core with a honeycomb structure containing a catalyst that includes a mix of 'precious metals' (eg platinum, palladium and rhodium). These precious metals are highly valuable and due to the fine particle size of them, an effective LEV system is required to maximise capture. As such it is not normally cost effective for smaller metal recyclers to do this work themselves. NB effective LEV for precious metal capture does not necessarily equate to effective LEV to reduce exposure.

The honeycomb centre is insulated by support matting. This matting may contain refractory ceramic fibres (RCF). There is no simple way for operators to determine whether a catalytic converter contains RCF until it is cut open. Operators should therefore treat all catalytic converters as containing RCF until they are able to identify that it is not present. RCF currently has a Workplace Exposure Limit of 5mg.m-3 (1 fibre/millilitre). It is classified as a Category 1B carcinogen with properties very similar to asbestos i.e. exposure to RCF should be reduced as low as reasonably practicable.

To obtain the precious metals, a process known as "de-canning" occurs. This process involves cutting open the metal casing (usually using either a guillotine or crocodile (alligator) shear), and removing the ceramic core contained inside. Other dusts may be released during de-canning.

Health and safety

Check and follow site rules regarding RPE & PPE.

If areas of site have been designated as requiring RPE, do not enter and seek advice from Occupational Hygiene Specialist Inspectors if access is required

Be aware of risks whilst working in close proximity to vehicles

Ensure good personal hygiene and wash hands on leaving site

Inspection

Joint visit with Occupational Hygiene Specialist Inspector to allocated premises.

Identify and record the following information on your inspection case as per Section 3.

Full site inspection in accordance with priorities required in addition to the inspection of exposure to RCF.

Priorities

Catalytic converter recycling

- Where is this work performed e.g. in a dedicated enclosure or in an open area where others may be affected by the work activity?
- How do they cut open the catalytic converters to extract precious metals inside? Is the machinery used appropriately guarded?
- Are they aware of the potential for the catalytic converter to contain Refractory Ceramic Fibre (RCF)?
- Have they introduced suitable and sufficient control measures to reduce (potential) exposure to RCF to as low as reasonably practicable during de-canning?
- Where is the LEV capture point positioned – e.g. at the base of the machine being used to de-can, or is it at a higher level (thereby potentially drawing captured materials past the operators)?
- How do they extract the honeycomb core? Have they minimised the "drop" distance between the point at which the core is extracted and where it is captured by the LEV?
- What is the position of the operator during this process e.g. are they "leaning into" the capture zone?
- During de-canning, do they ensure that the metal casings are empty of any material (including RCF), or is there potential for matting to remain in those being sent for recycling?
- Have they introduced suitable control measures to control exposure during cleaning and/or maintenance activities?
- Has suitable and sufficient information, instruction and training been provided for workers involved in any stage of this process?

Machinery

- Has access to all dangerous parts of the machine been eliminated or restricted sharply?
- Is guarding fixed or interlocked (if access required)?
- Are all in-running nips on conveyors guarded (safe by position for operation does not mean safe by position for maintenance)?
- Is there a daily / pre-shift guard check system in place?

- How are machines maintained and/or cleaned?
- How are blockages removed from machines?
- Can the machine be isolated and locked off (e.g. maintenance or clearing blockages)?
- Are there the means to lock off eg personal padlocks, multiclasp locks?
- Have all operators been suitably trained in the use of the machine they are operating?
- Have risk assessments considered engineering/maintenance activities?

Transport

Safe site

- Have they assessed the risks from workplace transport at the site?
- Is there a clear directional flow of traffic around the site?
- Has a one-way system been considered/implemented?
- Has reversing been eliminated sharp?
- Are vehicles suitably segregated from pedestrians?
- Has the positioning of skips/containers been considered with a view to eliminating blind corners? If not, have mirrors etc. been introduced to improve a driver's view of obscured areas?
- Are physical control measures in place to restrict access during collection activities?

Safe vehicles

- Are all vehicles fit for use and suitable for the activities they are performing?
- Are all brakes, lights, mirrors, horns etc. suitably maintained?
- Have reversing alarms/beacons been fitted?
- Have all lifting equipment and accessories been thoroughly examined?

Safe drivers

- Are only trained workers allowed to drive vehicles?
- Are there clear instructions for visiting drivers?
- Are visiting drivers supervised and monitored whilst on site?

Musculoskeletal Risks (MSDs)

- Have the risks associated with manual handling activities been suitably assessed?
- Are there opportunities to use mechanical aids to replace manual handling?
- Are workers appropriately trained?

Guidance

PM65 "Worker protection at crocodile (alligator) shears" <http://www.hse.gov.uk/pubns/books/pm65.htm>
 "Scrap and metal recycling" <http://www.hse.gov.uk/waste/metals.htm>
 "End of life vehicle (ELV) industry" <http://www.hse.gov.uk/waste/dismantling.htm>
[WISH Info 02](#) - Practical advice on lock-off recycling/recovery machinery

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3 in addition to those listed below

site specific IEEs			
Task	Situation	IEE	Comment
Control of exposure to RCF	No or ineffective LEV	PN	Refractory Ceramic Fibre (RCF) currently has a WEL of 5mg.m-3 (1 fibre/millilitre) and is classified as a Category 1B carcinogen with properties similar to asbestos. LEV required for cutting and RPE and PPE during cleaning/maintenance activities COSHH Reg. 7
	No consideration of exposure during cleaning/maintenance (and therefore no control measures introduced)	PN	Refractory Ceramic Fibre (RCF) currently has a WEL of 5mg.m-3 (1 fibre/millilitre) and is classified as a Category 1B carcinogen with properties similar to asbestos. LEV required for cutting and RPE and PPE during cleaning/maintenance activities COSHH Reg. 7

Appendix 5.1.3: Civic Amenity / Bring / Household Recycling Waste Sites

Introduction
<p>A civic amenity site (CA site) or household waste recycling centre (HWRC) is a facility where the public can dispose of household waste and also often containing recycling points. Civic amenity sites are usually owned by the local authority but maybe contracted out and operated by a private company.</p> <p>Bring Sites are bottle, clothing and paper banks found in public places eg supermarket car parks.</p>
Health and safety
<p>Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket</p> <p>Be aware of risks whilst working in close proximity to vehicles</p> <p>Ensure good personal hygiene and wash hands on leaving site</p>
Inspection
<p>Establish the contractual arrangements for the operation and management of the site to allocate responsibilities to the correct duty holder.</p> <p>Identify and record the following information on your inspection case as per Section 3</p>
Priorities
Transport
<u>Safe site</u> <ul style="list-style-type: none">➤ Have they assessed the risks from workplace transport at the site?➤ Is there a clear directional flow of traffic around the site?➤ Has a one-way system been considered/implemented?➤ Has reversing been eliminated sharp?➤ Are vehicles suitably segregated from pedestrians, including members of the public?➤ Has the positioning of skips/containers been considered with a view to eliminating blind corners? If not, have mirrors etc. been introduced to improve a driver's view of obscured areas?➤ Are there physical control measures to prevent access by members of the public to the area during collection of full skips/containers?➤ Are skips/containers clearly marked to reduce risk of late adjustments and reversing by visiting members of the public?
<u>Safe vehicles</u> <ul style="list-style-type: none">➤ Are all vehicles fit for use and suitable for the activities they are performing?➤ Are all brakes, lights, mirrors, horns etc. suitably maintained?➤ Have reversing alarms/beacons been fitted?➤ Have all lifting equipment and accessories been thoroughly examined?
<u>Safe drivers</u> <ul style="list-style-type: none">➤ Are only trained workers allowed to drive vehicles?➤ Are there clear instructions for visiting drivers, especially members of the public?➤ Are visiting drivers supervised and monitored whilst on site?
Slips/Trips <ul style="list-style-type: none">➤ Is the ground stable and even around skips / receptacles?➤ Are there systems to monitor overflow / waste left outside receptacles (unattended sites)?➤ Are there systems for the immediate clear up of spills?
Musculoskeletal Risks (MSDs) <ul style="list-style-type: none">➤ Have the risks associated with manual handling activities been suitably assessed?➤ Are there opportunities to use mechanical aids to replace manual handling?➤ Are workers appropriately trained?➤ Are workers expected to assist members of the public?
Work at Height <ul style="list-style-type: none">➤ Have suitable edge protection barriers at waist height (like scaffolding edge protection) been provided?➤ Are there systems to ensure skips are loaded evenly and prevent overfilling of skips?

- Where trimming of the load is necessary, are they raking with plant buckets or plant fitted with compaction devices or other tools?
- What are the systems to prevent entering skips to retrieve contaminants or valuable items, eg by: Intercepting them before they enter the skip, or providing 'retrieval tools/poles'?

Asbestos

- Are workers suitably trained to identify asbestos waste?
- Are there appropriate arrangements to deal with unexpected asbestos waste?

DSEAR

- Are dangerous substances (eg aerosols, solvents, LPG cylinders, batteries) stored securely and safely?

Guidance

[Waste 03](#) – Orphaned gas cylinders in the waste & recycling industry

[Waste 09](#) - Safe transport at waste and recycling sites

[Waste 11](#) - Safety at Bring Sites

[Waste 26](#) – Managing health and safety at Civic Amenity Sites

Inspections at waste transfer stations handling [asbestos waste](#)

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 5.1.4 Collections

Introduction / Description / Background

Generally, it is the local authority that has responsibility for municipal waste and recycling collections. The collection service may be provided directly by the local authority, contracted to a private contractor or undertaken by an arm's length in-house contractor (sometimes referred to as a TECKAL company).

Some Local Authorities operate a "waste partnership" – i.e. LAs work in partnership to create shared services. This sometimes occurs when there is a two-tier system (County and District) e.g. where the local authorities collect the waste and the counties are the waste disposal authority. More often though it is a group of neighbouring authorities working together to reduce costs (fleet savings, management etc).

There are many factors to consider when selecting the most appropriate collection/transfer/treatment systems for waste and recyclables. Comprehensive risk assessment is essential to ensure that services are delivered with risks controlled so far as is reasonably practicable.

When assessing the risks and evaluating the various options available it is essential that all hazards are identified and evaluated (eg Musculoskeletal injury, cuts, slips and trips, transport etc).

Any assessment process may also need to consider the hazards and level of risk presented across the entire process, from collection to final re-use/recycling/disposal. This may allow the consequential effects of each step in the process to be accounted for. For example, a particular collection system may result in greater/less manual handling in subsequent processes.

"Waste and recyclables health and safety final report incorporating Risk Comparator Tool user guide" RSU/RA/07/01 <http://www.hse.gov.uk/research/rrhtm/rr609.htm> - provides a means for local authorities and others to compare the level of risk from different waste and recyclables management systems.

Health and safety

Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket
Be aware of risks whilst working in close proximity to working vehicles and road traffic.
Ensure good personal hygiene and wash hands on leaving site / completing inspection.

Inspection

Establish contractual arrangement and responsibilities between Local Authorities and/or Contractors.

Understand the policy and procedures utilised from discussion with management / supervisors / workers / employee representatives.

Assess the policy and procedures by shadowing collection rounds and speaking to the employees

The WISH Waste 03 Information sheet on [Monitoring](#) can be used as aide memoire.

Identify and record the following information on your inspection case as per Section 3

Priorities

Transport

Route Risk Assessments

- Route risk assessments must be in place, clearly communicated and followed.
- Does the assessment consider times of day, traffic flow, schools, type of vehicle, size of vehicle, position of receptacles been considered?
- Has reversing been eliminated / minimised in the assessment?
- Is there a mechanism for reviewing and reporting back issues with the assessment?
- Is there an example where assessments have been updated?

Safe vehicles

- Are all vehicles fit for use and suitable for the activities they are performing in accordance with the route risk assessment?

- Have health issues (e.g. msd, noise) and safety risks (size of vehicles required to reach households) been considered during procurement?
- Are daily checks of the vehicle undertaken and recorded?
- How are defects actioned / which ones are safety critical?
- Have reversing alarms/beacons been fitted?
- Have all lifting equipment and accessories been thoroughly examined?

Safe drivers

- Are only trained workers allowed to drive vehicles?
- Are there clear instructions for agency / temporary drivers?
- How is the route risk assessment communicated to drivers?

Machinery safety

- Do workers understand the safe operation of lifting equipment eg emergency stops, safe loading?

Musculoskeletal Risks (MSDs)

- Have the risks associated with manual handling activities been suitably assessed? NB there is no restriction on moving 2 wheelie bins at a time if risk has been assessed appropriately (dynamic risk assessment)
- Has an assessment determined the suitable receptacle for the resident in conjunction with housing type, manual handling and vehicle?
- Are there opportunities to use mechanical aids to replace manual handling?
- Are workers appropriately trained?

Monitoring

- How does the Local Authority monitor the contractors or shared arrangements?

Noise

Noise is an issue for kerbside collection of glass. HSE's Waste & Recycling team is currently working with manufacturers and procurers to reduce the risk from noise by design measures. This does not negate the need for employers to assess the risks and implement control measures.

Guidance

[WISH Waste 03](#) Information sheet - Effective Proactive Monitoring in Waste and Recycling Collection Activities

[Waste 04](#) (Under revision) – Waste and Recycling Vehicles in Street Collection

[Waste 05](#) (Under revision) – Safe use of Refuse Collection Vehicle hoists and bins

[Waste 16](#) – Reducing noise risks from “kerbside” glass collection

[Waste 23](#) – Safe Waste and Recycling Collection Services

<http://www.hse.gov.uk/waste/services/index.htm>

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 5.1.5 Composting

Introduction
<p>Composting is the recycling of organic wastes such as vegetation and food waste to primarily produce fertiliser. Micro-organisms (fungal/mould spores such as the fungus <i>Aspergillus fumigatus</i> and certain types of bacteria called actinomycetes) are encouraged to grow to break down the organic waste- a process that also results in a very large number of these micro-organisms.</p> <p>Any handling of the material that generates dust will create a bioaerosol (micro-organisms made airborne). Commercial scale composting is performed either in open windrows (long heaps of composting material) or in-vessel systems (where the composting material is enclosed; a requirement for treating material containing animal waste). To encourage efficient composting, the material must be well aerated. Aeration of open windrows is achieved by regular turning of the material, which will create bioaerosols. In-vessel systems usually have forced air ventilation which is less likely to create bioaerosols. However, at the end of either process often the compost is screened (sieved) to produce a quality soil supplement and this could create bioaerosols.</p>
Health and safety
<p>Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket</p> <p>Be aware of risks whilst working in close proximity to working vehicles.</p> <p>Ensure good personal hygiene and wash hands on leaving site</p> <p>Do not stand in close proximity to jet washing/high pressure hosing, which could release bioaerosols into the air.</p>
Inspection
<p>Identify and record the following information on your inspection case as per Section 3</p>
Priorities
Machinery <ul style="list-style-type: none">➤ Has access to all dangerous parts of the machine been eliminated or restricted sharply?➤ Is guarding fixed or interlocked (if access required)?➤ Are all in-running nips on conveyors guarded (safe by position for operation does not mean safe by position for maintenance?)➤ Is there a daily / pre-shift guard check system in place?➤ How are machines maintained and/or cleaned?➤ How are blockages removed from machines?➤ Can the machine be isolated and locked off (e.g. maintenance or clearing blockages)?➤ Are there the means to lock off e.g. personal padlocks, multiclasp locks?➤ Have all operators been suitably trained in the use of the machine they are operating?➤ Have risk assessments considered engineering/maintenance activities?
Transport
<u>Safe site</u> <ul style="list-style-type: none">➤ Have they assessed the risks from workplace transport at the site?➤ Is there a clear directional flow of traffic around the site?➤ Has a one-way system been considered/implemented?➤ Has reversing been eliminated sharply?➤ Are vehicles suitably segregated from pedestrians?➤ Has the positioning of skips/containers been considered with a view to eliminating blind corners? If not, have mirrors etc. been introduced to improve a driver's view of obscured areas?➤ Are there physical control measures to prevent access to area during collection of full skips/containers?
<u>Safe vehicles</u> <ul style="list-style-type: none">➤ Are all vehicles fit for use and suitable for the activities they are performing?➤ Are all brakes, lights, mirrors, horns etc. suitably maintained?➤ Have reversing alarms/beacons been fitted?➤ Have all lifting equipment and accessories been thoroughly examined?
<u>Safe drivers</u> <ul style="list-style-type: none">➤ Are only trained workers allowed to drive vehicles?➤ Are there clear instructions for visiting drivers?➤ Are visiting drivers supervised and monitored whilst on site?

Bioaerosols

- Are they aware of risks associated with bioaerosols? NB. Due to the nature of waste being processed, unless proven otherwise, asthmagens are presumed to be present and therefore the necessary control measures should be implemented.
- Has the increased risk of bioaerosol generation during cleaning/maintenance been considered?
- Have tasks generating aerosols (e.g. pressure hosing or dry sweeping) been eliminated or appropriately controlled?
- If employees will be unavoidably exposed to bioaerosols, has the appropriate RPE and PPE been provided (e.g. FFP3 or air-fed masks)?

Musculoskeletal Risks (MSDs)

- Have the risks associated with manual handling activities been suitably assessed?
- Are there opportunities to use mechanical aids to replace manual handling?
- Are workers appropriately trained?

Guidance

HSE webpage "Composting - Recycling biodegradable waste" <http://www.hse.gov.uk/waste/composting.htm>

Public Health England "What are bioaerosols?"

<http://webarchive.nationalarchives.gov.uk/20140714084352/http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/Bioaerosols/BioaerosolsQandA>

[WISH Info 02](#) - Practical advice on lock-off recycling/recovery machinery

[Waste 09](#) - Safe transport at waste and recycling sites

[Waste 27](#) - Health and hazardous substances in waste and recycling

NB: HSE research on bioaerosols due for publication in 2018

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 5.1.6 Energy from Waste

Introduction

Energy-from-waste (EfW) is a process of generating energy in the form of electricity and/or heat from the primary treatment of waste, usually through incineration (combustion of organic waste material). Energy can be recovered from a range of organic feedstocks (biomass) making it an attractive prospect, as at the same time as diverting waste material from landfill it provides economic and environmental benefits.

Biomass is a generic term for forestry and plant material, agricultural crops, food and garden waste and the biodegradable or combustible fractions of municipal waste. It can be used as a fuel or an energy source. Sources of biomass include specifically grown crops such as oil seed rape, agricultural by-products, waste wood, animal waste such as slurry, food processing waste and biodegradable or combustible fractions of municipal waste.

All biomass energy generation technologies require the feedstock material to be pre-processed into a suitable form e.g. sorted, shredded, pulped or pelleted etc. depending on the needs of the process. A wide range of solid biomass crops, agricultural and industrial waste can be turned into wood chips, fuel pellets or briquettes for use as energy feedstocks.

Health and safety

Ensure appropriate PPE is worn - e.g. safety footwear & hi viz jacket
Be aware of risks whilst working in close proximity to working vehicles.
Ensure good personal hygiene and wash hands on leaving site.

Inspection

Due to the technical nature of the processes, there are a number of additional hazards associated with these processes e.g. process safety and explosion risks. As such Inspectors may need to seek assistance from their local Process Safety Specialist Inspectors.

Identify and record the following information on your inspection case as per Section 3

Priorities

Transport

Safe site

- Have they assessed the risks from workplace transport at the site?
- Is there a clear directional flow of traffic around the site?
- Has a one-way system been considered/implemented?
- Has reversing been eliminated safely?
- Are vehicles suitably segregated from pedestrians?
- Have blind corners been eliminated? If not, have mirrors etc. been introduced to improve a driver's view of obscured areas?
- Are physical control measures in place to restrict access during collection activities?
- Have risks arising from reverse tipping been controlled eg to prevent vehicles reversing into reception pits?

Safe vehicles

- Are all vehicles fit for use and suitable for the activities they are performing?
- Are all brakes, lights, mirrors, horns etc. suitably maintained?
- Have reversing alarms/beacons been fitted?
- Have all lifting equipment and accessories been thoroughly examined?

Safe drivers

- Are only trained workers allowed to drive vehicles?
- Are there clear instructions for visiting drivers?
- Are visiting drivers supervised and monitored whilst on site?

Machinery

- Has access to all dangerous parts of the machine been eliminated or restricted safely?
- Is guarding fixed or interlocked (if access required)?
- Are all in-running nips on conveyors guarded (safe by position for operation does not mean safe by position for maintenance)?
- Is there a daily / pre-shift guard check system in place?
- How are machines maintained and/or cleaned?
- How are blockages removed from machines?
- Can the machine be isolated and locked off (e.g. maintenance or clearing blockages)?

- Are there the means to lock off eg personal padlocks, multiclasp locks?
- Have all operators been suitably trained in the use of the machine they are operating?
- Have risk assessments considered engineering/maintenance activities?

DSEAR

- Has a suitable and sufficient DSEAR assessment been undertaken? e.g.:
 - have the risks arising from dangerous substances been identified and controlled?
 - have any areas of the workplace where explosive atmospheres may occur been identified and classified, and measures taken to avoid ignition sources?
 - have plans and procedures been developed to deal with accidents, incidents and emergencies and cascaded to staff?
- Is there suitable ventilation to control the risk of explosion from hydrogen release during storage and weathering of Industrial Bottom Ash (IBA)?

Bioaerosols

- Are they aware of risks associated with bioaerosols? NB. Due to the nature of waste being processed, unless proven otherwise, asthmagens are presumed to be present and therefore the necessary control measures should be implemented.
- Has the increased risk of bioaerosol generation during cleaning/maintenance been considered?
- Have tasks generating aerosols (e.g. pressure hosing or dry sweeping) been eliminated or appropriately controlled?
- If employees will be unavoidably exposed to bioaerosols, has the appropriate RPE and PPE been provided (e.g. FFP3 or air-fed masks)?

Musculoskeletal Risks (MSDs)

- Have the risks associated with manual handling activities been suitably assessed?
- Are there opportunities to use mechanical aids to replace manual handling?
- Are workers appropriately trained?

Guidance

HSE webpage “Disposal and energy recovery” <http://www.hse.gov.uk/waste/disposal.htm>

[WISH Info 02](#) - Practical advice on lock-off recycling/recovery machinery

[Waste 09](#) - Safe transport at waste and recycling sites

[Waste 18](#) – Hand sorting of recyclables (totting) with vehicle assistance

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3 in addition to those listed below

Potential Catastrophic Event:	Due to:	Examples of indicative issues:	Existing Guidance:
Fire & explosion.	Ignition of combustible dusts	Inadequate control/release of combustible substances.	HSG 103 Safe handling of combustible dusts: Precautions against explosions INDG370(rev1) Controlling Fire and Explosion Risks in the Workplace
		Inadequate control of ignition sources in hazardous areas	
	Inadequate explosion relief on dust collection units.		
	Ignition of IBA	Poor ventilation during weathering / storage	

Appendix 5.1.7 Materials Recovery Facilities (MRFs)

Introduction
<p>Materials Recovery Facilities (MRFs), also known as Materials Recycling Facilities or Materials Reclamation Facilities, may be designed to handle materials collected from a single municipal/household kerbside collection system, or more typically, to sort materials from kerbside collection programmes, as well as recyclables from commercial and industrial sources. These operations range in size and are operated by local authorities, major private contractors, the third sector and SMEs who may also operate waste transfer stations.</p> <p>They play an important role in reducing the amount of waste sent to landfill sites. They use specialised plant that receives, separates and prepares dry recyclable materials. The recyclables go through a variety of mainly mechanical and some manual processes to obtain maximum recovery of materials that will re-enter the manufacturing process as a valuable commodity.</p> <p>MRFs use a range of technologies to sort recyclables by their physical and chemical properties; shape, size, weight, magnetism and optical scanning.</p>
Health and safety
<p>Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket.</p> <p>Be aware of risks whilst working in close proximity to working vehicles.</p> <p>Ensure good personal hygiene and wash hands on leaving site.</p>
Inspection
<p>Identify and record the following information on your inspection case as per Section 3</p>
Priorities
Transport
<u>Safe site</u> <ul style="list-style-type: none">➤ Have they assessed the risks from workplace transport at the site?➤ Is there a clear directional flow of traffic around the site?➤ Has a one-way system been considered/implemented?➤ Has reversing been eliminated sfarp?➤ Are vehicles suitably segregated from pedestrians?➤ If hand sorting "totting" is being performed, have safe refuges been provided or transport movements eliminated in those areas whilst totting is ongoing?➤ Have blind corners been eliminated? If not, have mirrors etc. been introduced to improve a driver's view of obscured areas?➤ Are physical control measures in place to restrict access during collection activities?
<u>Safe vehicles</u> <ul style="list-style-type: none">➤ Are all vehicles fit for use and suitable for the activities they are performing?➤ Are all brakes, lights, mirrors, horns etc. suitably maintained?➤ Have reversing alarms/beacons been fitted?➤ Have all lifting equipment and accessories been thoroughly examined?
<u>Safe drivers</u> <ul style="list-style-type: none">➤ Are only trained workers allowed to drive vehicles?➤ Are there clear instructions for visiting drivers?➤ Are visiting drivers supervised and monitored whilst on site?
Machinery <ul style="list-style-type: none">➤ Has access to all dangerous parts of the machine been eliminated or restricted sfarp?➤ Is guarding fixed or interlocked (if access required)?➤ Are all in-running nips on conveyors guarded (safe by position for operation does not mean safe by position for maintenance)?➤ Is there a daily / pre-shift guard check system in place?➤ How are machines maintained and/or cleaned?➤ How are blockages removed from machines?➤ Can the machine be isolated and locked off (e.g. maintenance or clearing blockages)?➤ Are there the means to lock off eg personal padlocks, multiclasp locks?➤ Have all operators been suitably trained in the use of the machine they are operating?➤ Have risk assessments considered engineering/maintenance activities?

Musculoskeletal Risks (MSDs)

- Have the risks associated with manual handling activities been suitably assessed?
- Are there opportunities to use mechanical aids to replace manual handling?
- Are workers appropriately trained?
- Has ergonomics been assessed on sorting/picking lines?

Structural stability

- Are structures being used to support a load (e.g. wall / bay) adequately monitored and maintained? e.g.:
 - Is the site operator aware of the safe work load/capacity of the structure?
 - How do they ensure that this loading is not exceeded?
- Are the structures routinely inspected (for signs of wear or damage)?
- Are items being stacked in a safe manner e.g. vehicles, bales etc.? e.g. have they considered:
 - The type of material being stacked (e.g. will it disintegrate over time or under excessive loading)?
 - Does the material easily lend itself to stacking (e.g. compacted bales stack more safely than non-compacted vehicles)?
 - How good are the ground conditions (e.g. how flat and firm)?
 - Is the stack inside or outside of a building?
 - If outside, will it get affected by adverse weather conditions (weather, vehicle movements etc.)?
 - Does the stack need some form of stability aid (lengths of wood within the stack, or use of a bay)?
 - What is the volume of traffic movements around the stack, and are there any preventative measures in place to prevent accidental damage?
 - How frequently will operators need access to the stack?

DSEAR

- Has a suitable and sufficient DSEAR assessment been undertaken? e.g.:
 - have the risks arising from dangerous substances been identified and controlled?
 - have any areas of the workplace where explosive atmospheres may occur been identified and classified, and measures taken to avoid ignition sources?
 - have plans and procedures been developed to deal with accidents, incidents and emergencies and cascaded to staff?

Bioaerosols

- Are they aware of risks associated with bioaerosols? NB. Due to the nature of waste being processed, unless proven otherwise, asthmagens are presumed to be present and therefore the necessary control measures should be implemented.
- Has the increased risk of bioaerosol generation during cleaning/maintenance been considered?
- Have tasks generating aerosols (e.g. pressure hosing or dry sweeping) been eliminated or appropriately controlled?
- If employees will be unavoidably exposed to bioaerosols, has the appropriate RPE and PPE been provided (e.g. FFP3 or air-fed masks)?

Asbestos

- Are workers suitably trained to identify asbestos waste?
- Are there appropriate arrangements to deal with unexpected asbestos waste?

Guidance

[Waste 03](#) – Orphaned gas cylinders in the waste & recycling industry
[Waste 08](#) - Compactor Equipment
[Waste 09](#) - Safe transport at waste and recycling sites
[Waste 13](#) - Designing and Operating Material Recovery Facilities (MRFs) safely
[Waste 18](#) – Hand sorting of recyclables (totting) with vehicle assistance
Conveyor belt design - <http://www.hse.gov.uk/pubns/geis4.htm>
Noise - <http://www.hse.gov.uk/waste/noise-material-recovery-facilities.htm>

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 5.1.8 Mechanical Biological Treatment (MBT)

Introduction

MBT is a generic term used to describe several different residual waste treatment processes that involve both mechanical and biological treatment of municipal solid waste (MSW). MBT plants are used to separate mixed waste streams, typically from MSW, into a range of dry products (typically ferrous and non-ferrous metals and glass), high calorific value refuse derived fuels (RDF) suitable for incineration, and wet biodegradable slurries suitable for either composting or anaerobic digestion (AD).

MBT technology uses the naturally generated heat produced during biological degradation to dry and stabilise MSW. There are two main approaches and the difference between them is the stage at which the biological part of the waste is treated – either before the mechanical separation process or after it has taken place.

MBT itself is a two-stage process where on receipt at a processing plant MSW will be, after mixing and shredding (required to ensure waste is evenly mixed and sized), separated into different fractions using a range of different processes such as:

- Screening – removal of larger pieces of waste;
- Magnetic separation – removal of ferrous materials such as tin cans;
- Eddy current separation – removal of non-ferrous metals such as aluminium cans;
- Optical separation – separation of certain types of plastic; and
- Air classification – removal of light materials such as paper.

Once separated the materials can go on to be further recycled and the RDF used in energy production. The quality of the end products will depend upon the process that is used. Dry materials are generally of poor quality and only some types can be recycled e.g. glass is used as an aggregate in road construction. The residual biological material is generally of quality that is only suitable for landfill restoration.

Health and safety

Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket
Be aware of risks whilst working in close proximity to working vehicles.
Ensure good personal hygiene and wash hands on leaving site.

Inspection

Identify and record the following information on your inspection case as per Section 3

Priorities

Machinery

- Has access to all dangerous parts of the machine been eliminated or restricted safely?
- Is guarding fixed or interlocked (if access required)?
- Are all in-running nips on conveyors guarded (safe by position for operation does not mean safe by position for maintenance)?
- Is there a daily / pre-shift guard check system in place?
- How are machines maintained and/or cleaned?
- How are blockages removed from machines?
- Can the machine be isolated and locked off (e.g. maintenance or clearing blockages)?
- Are there the means to lock off eg personal padlocks, multiclasp locks?
- Have all operators been suitably trained in the use of the machine they are operating?
- Have risk assessments considered engineering/maintenance activities?

Transport

Safe site

- Have they assessed the risks from workplace transport at the site?
- Is there a clear directional flow of traffic around the site?
- Has a one-way system been considered/implemented?
- Has reversing been eliminated safely?
- Are vehicles suitably segregated from pedestrians?
- If hand sorting "totting" is being performed, have safe refuges been provided or transport movements eliminated in those areas whilst totting is ongoing?
- Have blind corners been eliminated? If not, have mirrors etc. been introduced to improve a driver's view of obscured areas?
- Are physical control measures in place to restrict access during collection activities?

Safe vehicles

- Are all vehicles fit for use and suitable for the activities they are performing?
- Are all brakes, lights, mirrors, horns etc. suitably maintained?
- Have reversing alarms/beacons been fitted?
- Have all lifting equipment and accessories been thoroughly examined?

Safe drivers

- Are only trained workers allowed to drive vehicles?
- Are there clear instructions for visiting drivers?
- Are visiting drivers supervised and monitored whilst on site?

Structural stability

- Are structures being used to support a load (e.g. wall or bay) adequately monitored and maintained? e.g.:
 - Is the site operator aware of the safe work load/capacity of the structure?
 - How do they ensure that this loading is not exceeded?
- Are the structures routinely inspected (for signs of wear or damage)?
- Are items being stacked in a safe manner e.g. vehicles, bales etc.? e.g. have they considered:
 - The type of material being stacked (e.g. will it disintegrate over time or under excessive loading)?
 - Does the material easily lend itself to stacking (e.g. compacted bales stack more safely than non-compacted vehicles)?
 - How good are the ground conditions (e.g. how flat and firm)?
 - Is the stack inside or outside of a building?
 - If outside, will it get affected by adverse weather conditions (weather, vehicle movements etc.)?
 - Does the stack need some form of stability aid (lengths of wood within the stack, or use of a bay)?
 - What is the volume of traffic movements around the stack, and are there any preventative measures in place to prevent accidental damage?
 - How frequently will operators need access to the stack?

DSEAR

- Has a suitable and sufficient DSEAR assessment been undertaken? e.g.:
 - have the risks arising from dangerous substances been identified and controlled?
 - have any areas of the workplace where explosive atmospheres may occur been identified and classified, and measures taken to avoid ignition sources?
 - have plans and procedures been developed to deal with accidents, incidents and emergencies and cascaded to staff?

Bioaerosols

- Are they aware of risks associated with bioaerosols? NB. Due to the nature of waste being processed, unless proven otherwise, asthmagens are presumed to be present and therefore the necessary control measures should be implemented.
- Has the increased risk of bioaerosol generation during cleaning/maintenance been considered?
- Have tasks generating aerosols (e.g. pressure hosing or dry sweeping) been eliminated or appropriately controlled?
- If employees will be unavoidably exposed to bioaerosols, has the appropriate RPE and PPE been provided (e.g. FFP3 or air-fed masks)?

Musculoskeletal Risks (MSDs)

- Have the risks associated with manual handling activities been suitably assessed?
- Are there opportunities to use mechanical aids to replace manual handling?
- Are workers appropriately trained?

Guidance

HSE webpage "Mechanical biological treatment" <http://www.hse.gov.uk/waste/mechanical-bio.htm>
[WISH Info 02](#) - Practical advice on lock-off recycling/recovery machinery
[Waste 03](#) – Orphaned gas cylinders in the waste & recycling industry
[Waste 08](#) - Compactor Equipment
[Waste 09](#) - Safe transport at waste and recycling sites
[Waste 18](#) – Hand sorting of recyclables (totting) with vehicle assistance

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 5.1.9 Metal Recycling inc End of Life Vehicles

Introduction
<p>Metal recycling sites (previously referred to as scrapyards) recycle, process and/or store waste metal. Sites obtain unwanted or unrepairable items (often referred to as “end of life”) such as vehicles, electronic equipment, appliances and general waste metal to remove valuable components for reuse or selling to other traders or the public. Operators utilise a range of processes and equipment to strip, cut or burn waste to extract key metals or components. The industry has a high proportion of small to medium sized enterprises (SMEs).</p> <p>Certain sites will be authorised to process and recycle end of life vehicles (ELV). An ELV is any motor vehicle that has been designated as waste (due to its age and/or condition) and must be appropriately “de-polluted” - the safe and controlled removal of harmful components and substances such as car batteries, engine oil and fuel.</p>
Health and safety
<p>Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket.</p> <p>Be aware of risks whilst working in close proximity to working vehicles.</p> <p>Ensure good personal hygiene and wash hands on leaving site.</p>
Inspection
<p>Inspectors who encounter catalytic converter recycling (other than those in the catalytic converter inspection programme this year) should notify the Waste and Recycling Sector team of the details of their visit via email (wasteandrecycling@hse.gov.uk) and take note of the catalytic converter appendix.</p> <p>Identify and record the following information on your inspection case as per Section 3</p>
Priorities
Machinery <ul style="list-style-type: none">➤ Has access to all dangerous parts of the machine been eliminated or restricted sfarp?➤ Is guarding fixed or interlocked (if access required)?➤ Are all in-running nips on conveyors guarded (safe by position for operation does not mean safe by position for maintenance)?➤ Is there a daily / pre-shift guard check system in place?➤ How are machines maintained and/or cleaned?➤ How are blockages removed from machines?➤ Can the machine be isolated and locked off (e.g. maintenance or clearing blockages)?➤ Are there the means to lock off eg personal padlocks, multiclasp locks?➤ Have all operators been suitably trained in the use of the machine they are operating?➤ Have risk assessments considered engineering/maintenance activities?
Transport
Safe site <ul style="list-style-type: none">➤ Have they assessed the risks from workplace transport at the site?➤ Is there a clear directional flow of traffic around the site?➤ Has a one-way system been considered/implemented?➤ Has reversing been eliminated sfarp?➤ Are vehicles suitably segregated from pedestrians?➤ If hand sorting “totting” is being performed, have safe refuges been provided or transport movements eliminated in those areas whilst totting is ongoing?➤ Has the positioning of skips/containers been considered with a view to eliminating blind corners? If not, have mirrors etc. been introduced to improve a driver’s view of obscured areas?➤ Are physical control measures in place to restrict access during collection activities?
Safe vehicles <ul style="list-style-type: none">➤ Are all vehicles fit for use and suitable for the activities they are performing?➤ Are all brakes, lights, mirrors, horns etc. suitably maintained?➤ Have reversing alarms/beacons been fitted?➤ Have all lifting equipment and accessories been thoroughly examined?
Safe drivers <ul style="list-style-type: none">➤ Are only trained workers allowed to drive vehicles?➤ Are there clear instructions for visiting drivers?

- Are visiting drivers supervised and monitored whilst on site?

Structural stability

- Are structures being used to support a load (e.g. wall or bay) adequately monitored and maintained? e.g.:
 - Is the site operator aware of the safe work load/capacity of the structure?
 - How do they ensure that this loading is not exceeded?
- Are the structures routinely inspected (for signs of wear or damage)?
- Are items being stacked in a safe manner e.g. vehicles, bales etc.? e.g. have they considered:
 - The type of material being stacked (e.g. will it disintegrate over time or under excessive loading)?
 - Does the material easily lend itself to stacking (e.g. compacted bales stack more safely than non-compacted vehicles)?
 - How good are the ground conditions (e.g. how flat and firm)?
 - Is the stack inside or outside of a building?
 - If outside, will it get affected by adverse weather conditions (weather, vehicle movements etc.)?
 - Does the stack need some form of stability aid (lengths of wood within the stack, or use of a bay)?
 - What is the volume of traffic movements around the stack, and are there any preventative measures in place to prevent accidental damage?
 - How frequently will operators need access to the stack?

Catalytic converter recycling

- See [Appendix 5.1.2](#) for guidance on catalytic converter recycling.

Petrol drainage

- Are they using a safe method to remove petrol e.g. a proprietary fuel retriever or depollution rig?
- Have they controlled fire and explosion risks e.g. piercing fuel tanks, draining petrol, potential flammable atmospheres, sources of ignition etc.?

Musculoskeletal Risks (MSDs)

- Have the risks associated with manual handling activities been suitably assessed?
- Are there opportunities to use mechanical aids to replace manual handling?
- Are workers appropriately trained?
- Are workers expected to assist members of the public?

Guidance

PM65 “Worker protection at crocodile (alligator) shears” <http://www.hse.gov.uk/pubns/books/pm65.htm>

PM66 “Scrap baling machines” <http://www.hse.gov.uk/pubns/books/pm66.htm>

“Recover paper safely” <http://www.hse.gov.uk/pubns/indg392.pdf>

“Scrap and metal recycling” <http://www.hse.gov.uk/waste/metals.htm>

“End of life vehicle (ELV) industry” <http://www.hse.gov.uk/waste/dismantling.htm>

[WISH Info 02](#) - Practical advice on lock-off recycling/recovery machinery

[Waste 03](#) – Orphaned gas cylinders in the waste & recycling industry

[Waste 08](#) - Compactor Equipment

[Waste 09](#) - Safe transport at waste and recycling sites

[Waste 10](#) - Recovery of petrol from ELV

[Waste 18](#) – Hand sorting of recyclables (totting) with vehicle assistance

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 5.1.10 National Lead Inspector Companies

Introduction
<p>The NLI initiative is well established and has been in place since 2009/10, there are currently 14 companies participating in the scheme. The aim has been to improve health and safety standards by establishing a co-ordinated and consistent approach to inspection within these companies, assessing their management systems and establishing benchmarking standards.</p> <p>As the NLI scheme has matured, it has been revised and now concentrates on inspecting individual sites for regulatory compliance. As these companies employ a significant proportion of workers in the industry, it is imperative that we continue inspecting them until sustainable compliance across the majority of the sites is established. The findings of this year's inspection programme will be used to further review and revise the NLI initiative.</p> <p>In 2018/19, up to ten sites for each company will be visited and management of health and safety risks assessed. These sites will be allocated by the Waste & Recycling Team to the appropriate geographical unit.</p> <p>The role of the National Lead Inspector is to act as the central point of contact with their NLI Company and co-ordinate the findings of all local inspections to be able to provide the NLI Company with a composite overview of their performance. At the end of the year, the NLI will prepare a report outlining the positive and negative findings of their company's inspection visits and arrange a meeting at the head office to speak to the CEO/Director with their Band 1 or Band 2 as deemed appropriate.</p>
Health & Safety
<p>Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket Be aware of risks whilst working in close proximity to vehicles Ensure good personal hygiene and wash hands on leaving site.</p>
Inspection
<p>NLIs should ensure that all central management issues are entered onto their existing Master Case for the company. Inspectors should consult the Master Case linked to their case and contact the NLI if they have any queries.</p> <p>Inspectors should deal with site specific issues as normal. If any system / management / companywide issues are identified, these should be raised with the NLI following their visit and together agree a suitable course of action. The fact that the Company is dealing with e.g. a transport/machinery review on a national level should not stop an inspector dealing with a risk on a site level and taking appropriate enforcement action.</p> <p>Inspection cases should be linked to the NLI Company Master case. Link to T&I Guide</p> <p>The NLI Inspector will be marked on the company page and will be visible on the Site Overview printout.</p> <p>PLEASE NOTE THAT THE OLD OG CONTAINING NLI NAMES IS NOW OBSOLETE</p> <p>The NLI Companies with relevant Master Cases are: - Amey, Biffa, Cory, EMR, FCC, Grundon, Kier, Serco, Renewi (formerly Shanks), SIMS, Suez, Veolia, Viridor, William Tracey.</p> <p>Identify and record the following information on your inspection case as per Section 3</p>
Priorities
<p>Local site conditions as per risks identified in 'Type of Premises' appendices in this OG</p>
Guidance
<p>See guidance provided in the other Appendices to this OG</p>
Contacts
<p>wasteandrecycling@hse.gov.uk</p>

Appendix 5.1.11 Skip Safety

Introduction

A skip is a large open-topped waste container designed for loading onto a skip loader lorry. Instead of being emptied into another vehicle, (as is the case with a wheelie bin and a Refuse Collection Vehicle), a skip is removed, or replaced by an empty skip, and its contents disposed of elsewhere (normally at a waste transfer station or landfill). To facilitate its removal, there are usually lugs at the ends of the skip onto which chains can be attached, permitting it to be lifted onto and off the skip lorry. There are several types of skip containers, but the majority can be classified in three groups: Open skips (which allow easier loading of waste materials and are commonly found on construction sites); Closed skips (more secure, prevent unauthorised use of the skip and can help to ensure that the volume of waste does not exceed the maximum limit), and Roll-On and Roll-Off (RORO) skips that are similar to open skips, but instead of being lifted onto a skip lorry by chains, they are rolled on with a hook.

One end of the skip sometimes has a large door that hinges down to allow manual loading and unloading. Skips are usually durable and tough, made to withstand rough use by tradesmen and labourers. There are no BS/EN standards for the manufacture of skips and containers – though some industries may have their own standards e.g. offshore. Due to the multi-purpose nature of their use, skips can be found on almost any type of site.

Road Traffic legislation requires that the contents of full skips be covered to prevent accidental loss of material – this is normally achieved by sheeting. Automated/mechanical sheeting systems are at the top of the hierarchy of control measures because these systems allow the driver to sheet the load from ground level. Manual sheeting from the vehicle is to be discouraged unless it is not reasonably practicable to use automated sheeting systems or sheet from the ground. Loads can be sheeted from platforms removing the need to climb onto the vehicle or the load. Under no circumstances should anyone be allowed to stand or walk on the load.

There has been an issue with skip loader vehicles 'running away' whilst lifting skips on slopes. Most manufacturers now offer all-wheel braking on the chassis of vehicles suitable for converting to skip loaders, but if it is not possible to purchase all-wheel braking on a new vehicle, flat plates should be fitted to stabiliser legs instead of rollers. Similarly, on older vehicles it should be possible to fit all-wheel braking retrospectively, but the converted vehicle must conform with all the current construction and use regulations and it must be approved by application to the DVSA or equivalent. Where this is not possible, flat plates should be fitted to the stabiliser legs.

Health and safety

Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket
Be aware of risks whilst working in close proximity to vehicles
Ensure good personal hygiene and wash hands on leaving site.

Inspection

Skips and containers themselves do not require thorough examination under LOLER, but do require inspection under PUWER.

Identify and record the following information on your inspection case as per Section 3

Priorities

Collection/transfer of skips

- Does the hoisting mechanism (including any wire ropes or chains that form part of the mechanism) for skip loaders and hook loaders comply with LOLER?
- Are skips/containers routinely examined to ensure that they remain in good repair and are fit for purpose?
- Do drivers report hazardous situations (e.g. grossly overloaded or unsafely loaded skips or containers)?
- Is there a safe system for sheeting skips (if necessary)?
- Are duty holders transporting loaded skips that are stacked on top of each other? This is regarded by DVSA to be unsafe. DVSA would enforce on the highway. HSE should address the matter if seen leaving / entering site.
- Are duty holders transporting stacked empty skips? If so they should not be stacked more than 3 high.

Skip management

- Have operators selected the correct type of skip for the intended task (e.g. load, stability etc.)?
- Are operators and/or collection workers competent to recognise faults and/or damage to skips/containers that could make them unsafe to use?
- Is there a system to ensure that damaged and unsafe skips or containers are removed from service for disposal, repair or returned to supplier?

- Has the stability of stacked empty skips been considered (e.g. ground conditions, accessibility etc.)?
- Loaded skips should never be stacked on top of each other.

Transport

Safe site

- Have they assessed the risks from workplace transport at the site?
- Is there a clear directional flow of traffic around the site?
- Has a one-way system been considered/implemented?
- Has reversing been eliminated safely?
- Are vehicles suitably segregated from pedestrians?
- Has the positioning of skips/containers been considered with a view to eliminating blind corners? If not, have mirrors etc. been introduced to improve a driver's view of obscured areas?
- Physical control measures to prevent access to area during collection of full skips/containers?

Safe vehicles

- Are all vehicles fit for use and suitable for the activities they are performing?
- Are all brakes, lights, mirrors, horns etc. suitably maintained?
- Have reversing alarms/beacons been fitted?
- Have all lifting equipment and accessories been thoroughly examined?
- On skip loaders, has the potential for "runaway" during loading been suitably prevented?
 - Is it fitted with all wheel braking? Retrofitting is possible
 - If all wheel braking cannot be fitted, have the rollers been replaced with flat plates on the stabiliser legs?

Safe drivers

- Are only trained workers allowed to drive vehicles?
- Are there clear instructions for visiting drivers?
- Are visiting drivers supervised and monitored whilst on site?

Asbestos

- Are workers suitably trained to identify asbestos waste?
- Are there appropriate arrangements to deal with unexpected asbestos waste?

Guidance

HSE webpage "Skip hire and waste transfer" <http://www.hse.gov.uk/waste/skiphire.htm>
 HSE webpage "Preventing 'runaway' skip loader incidents" <http://www.hse.gov.uk/waste/skiploaders.htm>
 HSE webpage "Load security when raising and lowering" www.hse.gov.uk/waste/hookloader.htm
 HSE webpage "Failure of wishbone bale bar (hook bar)" www.hse.gov.uk/waste/wishbone.htm
[Waste 06](#) - Skip and Container Safety in Waste Management and Recycling
[Waste 09](#) - Safe transport at waste and recycling sites

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 5.1.12 Waste Electrical and Electronic Equipment (WEEE)

Introduction

Waste Electrical and Electronic Equipment recycling (WEEE) is a specialist part of the waste and recycling industry, and includes most products that have a plug or need a battery. There are 10 broad categories of WEEE:

- Large household appliances e.g. fridges, cookers, microwaves, washing machines and dishwashers;
- Small household appliances e.g. vacuum cleaners, irons, toasters and clocks;
- IT and telecommunications equipment e.g. computers, copying equipment, telephones and calculators;
- Consumer equipment e.g. radios, televisions, hi-fi equipment, camcorders and musical instruments;
- Lighting equipment e.g. straight and compact fluorescent tubes and high intensity discharge lamps;
- Electrical and electronic tools – e.g. drills, saws and sewing machines, electric lawnmowers;
- Toys, leisure and sports equipment e.g. electric trains, games consoles and running machines;
- Medical devices e.g. (non-infected) dialysis machines, analysers, medical freezers, cardiology equipment;
- Monitoring and control equipment e.g. smoke detectors, thermostats and heating regulators; and
- Automatic dispensers e.g. hot drink dispensers and money dispensers.

A wide range of materials e.g. metal, glass, plastics, ceramics and precious metals can be found in WEEE, and treatment varies enormously according to the type of WEEE and technology that is used. Some facilities utilise large-scale shredding technologies, others use a disassembly process (manual, automated or a combination). Various standards exist for both disassembly and shredding operations and in particular for the removal of certain hazardous substances and components in order to avoid risks to health and safety and damage to equipment.

Health and safety

Ensure appropriate PPE/RPE is worn - e.g. safety footwear, & hi viz jacket
Be aware of risks whilst working in close proximity to vehicles
Ensure good personal hygiene and wash hands on leaving site

Inspection

Inspectors could potentially discover a range of hazardous substances at a WEEE Recycling Plant, including:

- Mercury (which can be found in fluorescent lamps, medical equipment, and mobile phones);
- Phosphorous pentachloride (liberated when processing some glass to remove the fluorescent coating);
- Polychlorinated biphenyls – PCBs (found in capacitors and transformers manufactured before 1986);
- Refractory Ceramic Fibre – RCF (some domestic and building heating appliances);
- Asbestos (found in older appliances such as electric coffee pots, toasters, irons and electric heaters);
- Lead (liberated when processing some glass);
- Radioactive substances (fill level detectors, static eliminators, radium luminised dials, smoke detectors).

Identify and record the following information on your inspection case as per Section 3

Priorities

Machinery

- Has access to all dangerous parts of the machine been eliminated or restricted safely?
- Is guarding fixed or interlocked (if access required)?
- Are all in-running nips on conveyors guarded (safe by position for operation does not mean safe by position for maintenance)?
- Is there a daily / pre-shift guard check system in place?
- How are machines maintained and/or cleaned?
- How are blockages removed from machines?
- Can the machine be isolated and locked off (e.g. maintenance or clearing blockages)?
- Are there the means to lock off e.g. personal padlocks, multiclasp locks?
- Have all operators been suitably trained in the use of the machine they are operating?
- Have risk assessments considered engineering/maintenance activities?

Transport

Safe Site

- Have they assessed the risks from workplace transport at the site?
- Is there a clear directional flow of traffic around the site?
- Has a one-way system been considered/implemented?
- Has reversing been eliminated safely?

- Are vehicles suitably segregated from pedestrians?
- Have blind corners been eliminated? If not, have mirrors been introduced to improve driver's view?
- Are systems and physical control measures in place to restrict access during collection activities?
- If hand sorting "totting" is being performed, have safe refuges been provided or transport movements eliminated in those areas whilst totting is ongoing?

Safe Vehicles

- Are all vehicles fit for use and suitable for the activities they are performing?
- Are all brakes, lights, mirrors, horns etc. suitably maintained?
- Have reversing alarms/beacons been fitted?
- Have all lifting equipment and accessories been thoroughly examined?

Safe Drivers

- Are only trained workers allowed to drive vehicles?
- Are there clear instructions for visiting drivers?
- Are visiting drivers supervised and monitored whilst on site?

Structural stability

- Are structures being used to support a load (e.g. wall or bay) adequately monitored and maintained? e.g.:
 - Is the site operator aware of the safe work load/capacity of the structure?
 - How do they ensure that this loading is not exceeded?
- Are the structures routinely inspected (for signs of wear or damage)?
- Are items being stacked in a safe manner e.g. bales, white goods etc.? e.g. have they considered:
 - Have they considered an alternative way of stacking?
 - The type of material being stacked (e.g. will it disintegrate over time or under excessive loading)?
 - Does the material easily lend itself to stacking (e.g. compacted bales stack more safely than non-compacted items)?
 - How good are the ground conditions (e.g. how flat and firm)?
 - Is the stack inside or outside of a building?
 - If outside, will it get affected by adverse weather conditions; (weather, vehicle movements etc.)?
 - Volume of traffic movement around the stack? Any measures to prevent accidental damage?
 - How frequently will operators need access to the stack?

Substances hazardous to health

- Does the WEEE being processed contain substances hazardous to health?
- Has a COSHH assessment been performed? Do any substances have a WEL?
- If relevant, have suitable control measures been introduced to ensure exposure below the WEL?
- Are control measures maintained in a good working order?
- For substances not covered by COSHH (e.g. lead, asbestos and radioactive substances) have control measures (in accordance with those specific regulations) been introduced?
- Have adequate emergency procedures been established and is everyone trained in what to do?
- Has any health surveillance been carried out (if required)?

Musculoskeletal risks (MSDs)

- Have the risks associated with manual handling activities been suitably assessed?
- Are there opportunities to use mechanical aids to replace manual handling?

Guidance

"Waste Electrical and Electronic Equipment recycling (WEEE) <http://www.hse.gov.uk/waste/waste-electrical.htm>
[WISH Info 02](#) - Practical advice on lock-off recycling/recovery machinery
[Waste 03](#) – Orphaned gas cylinders in the waste & recycling industry
[Waste 08](#) - Compactor Equipment
[Waste 09](#) - Safe transport at waste and recycling sites
[Waste 18](#) – Hand sorting of recyclables (totting) with vehicle assistance

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 5.1.13 Waste Transfer Stations

Introduction

A waste transfer station is a building or processing site for the temporary deposition of waste. They are used as a convenient tipping point for general waste and recyclable materials. Local waste collection vehicles will deposit their waste, the waste is then bulked up before being loaded and transported in larger vehicles to another location for further treatment or disposal.

Often Waste transfer stations may be a combination of different processes.

Health and safety

Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket
Be aware of risks whilst working in close proximity to vehicles
Ensure good personal hygiene and wash hands on leaving site.

Inspection

Identify and record the following information on your inspection case as per Section 3

Priorities

Transport

Safe site

- Have they assessed the risks from workplace transport at the site?
- Is there a clear directional flow of traffic around the site?
- Has a one-way system been considered/implemented?
- Has reversing been eliminated safely?
- Are vehicles suitably segregated from pedestrians?
- Has the positioning of skips/containers been considered with a view to eliminating blind corners? If not, have mirrors etc. been introduced to improve a driver's view of obscured areas?
- Physical control measures to prevent access to area during collection of full skips/containers?
- If hand sorting "totting" is being performed, have safe refuges been provided or transport movements eliminated in those areas whilst totting is ongoing?
- Have risks arising from reverse tipping been controlled eg to prevent vehicles reversing into reception pits?

Safe vehicles

- Are all vehicles fit for use and suitable for the activities they are performing?
- Are all brakes, lights, mirrors, horns etc. suitably maintained?
- Have reversing alarms/beacons been fitted?
- Have all lifting equipment and accessories been thoroughly examined?

Safe drivers

- Are only trained workers allowed to drive vehicles?
- Are there clear instructions for visiting drivers?
- Are visiting drivers supervised and monitored whilst on site?

Machinery

- Has access to all dangerous parts of the machine been eliminated or restricted safely?
- Is guarding fixed or interlocked (if access required)?
- Are all in-running nips on conveyors guarded (safe by position for operation does not mean safe by position for maintenance)?
- Is there a daily / pre-shift guard check system in place?
- How are machines maintained and/or cleaned?
- How are blockages removed from machines?
- Can the machine be isolated and locked off (e.g. maintenance or clearing blockages)?
- Are there the means to lock off eg personal padlocks, multiclasp locks?
- Have all operators been suitably trained in the use of the machine they are operating?
- Have risk assessments considered engineering/maintenance activities?

Musculoskeletal Risks (MSDs)

- Have the risks associated with manual handling activities been suitably assessed?
- Are there opportunities to use mechanical aids to replace manual handling?
- Are workers appropriately trained?
- Has ergonomics been assessed on sorting/picking lines?

Structural stability

- Are structures being used to support a load (e.g. wall or bay) adequately monitored and maintained? e.g.:
 - Is the site operator aware of the safe work load/capacity of the structure?
 - How do they ensure that this loading is not exceeded?
- Are the structures routinely inspected (for signs of wear or damage)?
- Are items being stacked in a safe manner e.g. vehicles, bales etc.? e.g. have they considered:
 - The type of material being stacked (e.g. will it disintegrate over time or under excessive loading)?
 - Does the material easily lend itself to stacking (e.g. compacted bales stack more safely than non-compacted vehicles)?
 - How good are the ground conditions (e.g. how flat and firm)?
 - Is the stack inside or outside of a building?
 - If outside, will it get affected by adverse weather conditions (weather, vehicle movements etc.)?
 - Does the stack need some form of stability aid (lengths of wood within the stack, or use of a bay)?
 - What is the volume of traffic movements around the stack, and are there any preventative measures in place to prevent accidental damage?
 - How frequently will operators need access to the stack?

Asbestos

- Are workers suitably trained to identify asbestos waste?
- Are there appropriate arrangements to deal with unexpected asbestos waste?

Bioaerosols

- Are they aware of risks associated with bioaerosols? NB. Due to the nature of waste being processed, unless proven otherwise, asthmagens are presumed to be present and therefore the necessary control measures should be implemented.
- Has the increased risk of bioaerosol generation during cleaning/maintenance been considered?
- Have tasks generating aerosols (e.g. pressure hosing or dry sweeping) been eliminated or appropriately controlled?
- If employees will be unavoidably exposed to bioaerosols, has the appropriate RPE and PPE been provided (e.g. FFP3 or air-fed masks)?

Guidance

For those carrying out hand totting, tating or picking from floor activities, a [Checklist](#) is available. Although it is not comprehensive, the self-audit can be used as an aide memoire.

[WISH Info 02](#) - Practical advice on lock-off recycling/recovery machinery

[Waste 03](#) – Orphaned gas cylinders in the waste & recycling industry

[Waste 08](#) Compactor Equipment

[Waste 09](#) - Safe transport at waste and recycling sites

[Waste 18](#) – Hand sorting of recyclables (totting) with vehicle assistance

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 5.2. Examples of industry specific Matters of Potential Major Concern (MPMC)

Inspectors must consider action in relation to Matters of Evident Concern (MEC) or Matters of Potential Major Concern (MPMC) at all visits (see [OC18/12](#)).

Included in the industry-specific appendices, 5.1.1.-5.1.13. are industry-specific examples of situations that could lead to potentially catastrophic events. There are other events common across the industry included here. See OC18/12 for more details.

Inspectors should discuss with Specialist Inspectors if further assistance is required.

Potential Catastrophic Event:	Due to:	Examples of indicative issues:	Existing Guidance:
Fire & explosion.	Lack of General Fire Precautions NB verbal advice only then refer immediately to the local Fire Authority and EA	Stack separation Lack of escape routes	WISH Waste 8 - Fire Guidance EA Fire Prevention Plans
	Uncontrolled release of stored energy at autoclaves / hydroclaves	Lack of / inadequate proactive maintenance system.	http://www.hse.gov.uk/pubns/guidance/pm73.pdf Safety requirements for autoclaves
	Orphan Cylinders	Inadequate pre-sorting of waste Inadequate storage arrangements	Waste 03 – Orphaned gas cylinders in the waste & recycling industry
	Storage of Oily Rags	Inadequate DSEAR assessment Inadequate storage	HSG 140 The Safe Use and Handling of Flammable Liquids Paragraph 118
Exposure to oxygen deficient atmospheres; exposure to noxious gases; engulfment (solids / liquids).	Entry into a confined space / silo / tank	Need to enter confined space has not been designed-out.	INDG258 (rev1) Safe Work in Confined Spaces: A Guide to Working Safely. Safe Work in Confined Spaces. ACOP to the Confined Spaces Regulations 1997
		Lack of / inadequate safe system of work for necessary confined space entry.	
Structural Safety / structural collapse	Collapse of large size precast panels	Poorly designed storage Loading waste against non-load bearing walls	Consult SG

Appendix 5.3 : Initial Enforcement Expectations

NB: Should an Inspector identify that there is (or is likely to be) a risk of serious personal injury arising from any of the situations below, then they should consider issuing a Prohibition Notice, regardless of the IEE indicated in the table.

MACHINERY (Specific and General)			
Type of Machine	Situation	IEE	Comment
Baler Compactor Baling Press	Ability to access compacting parts during baler operation And/or Ability to reach into dangerous parts of machine from any opening (e.g. hopper, feed point, conveyor feed point, discharge point, or inspection hatch) when machine in operation.	PN	Prevent access to any dangerous part of machinery – PUWER Reg. 11(1). Interlocked guards. If full and/or partial body access trapped / captive key* interlock should be fitted as minimum. *Trapped/captive key is the preferred method due to the environment. Other equally effective interlocking systems are available e.g. positive and negative interlocking with/without cross monitoring. If full body access is necessary (for maintenance etc. then additional precautions may be necessary e.g. scotching or use of props to deal with risk of residual pressure or gravity fall. NB: Paper baler standards also permit other forms of safeguarding to trapped key e.g. use of presence sensing or two handed control.
	No means to isolate and lock off power supply to machine.	PN	Work equipment not isolated from source of energy – PUWER Reg. 19
	Control devices not clearly visible, marked or reliable, or do not perform function required.	IN	All controls for work equipment are clearly visible and identifiable, including by appropriate marking where necessary – PUWER Reg. 17(1)
	Operator does not have a clear view of all functions of the machine (from control position).	PN	Clear view of the machine, baling box and discharge opening required – PUWER Reg. 17
	No trip wires on and over conveyor feeding baler (e.g. goal post type trip wires).	IN	Provide one or more readily accessible emergency stop controls – PUWER Reg. 16 if access is foreseeable
	Uncontrolled access to discharge area (risk of injury from bales or closing doors/lids).	IN	Prevent access to any dangerous part of machinery – PUWER Reg. 11(1) Protect against any article being ejected from work equipment – PUWER Reg. 12
	No protection from materials ejected during compaction (e.g. machine location, fencing etc.).	IN	Failure to protect operator/others from material being ejected from work equipment during operation – PUWER Reg.12
Conveyor	No fixed guard on nip point, where routine access is not needed.	PN	Prevent access to any dangerous part of machinery – PUWER Reg. 11(1)
	No interlocked guard on nip point where routine access is needed e.g. for maintenance/cleaning.	PN	Prevent access to any dangerous part of machinery – PUWER Reg. 11(1)
	No fixed guard on chain and sprocket drive.	PN	Prevent access to any dangerous part of machinery – PUWER Reg. 11(1)
	Poor positioning, inadequate number, or incorrect type of emergency stop devices provided for conveyor system.	PN	Provide one or more readily accessible emergency stop controls – PUWER Reg. 16 Any (safety) control shall bring the work equipment to a complete stop where necessary for reasons of health and safety – PUWER Reg. 15 & 16.
	No trip wires provided on conveyors feeding machines where access is foreseeable.	PN	Provide one or more readily accessible emergency stop controls – PUWER Reg. 16

Crocodile Shears	Machine has continuous operation function enabled.	PN	Inadequate operator control of machine (operation should only be controlled by a shrouded foot pedal – PUWER Reg.15, 16 and 17
	No fixed, adjustable, guard on moving (upper) part of machine.	PN	Prevent access to any dangerous part of machinery – PUWER Reg. 11(1)
	Position of shears does not prevent persons/vehicles entering danger zones around machine when in operation.	PN	When work equipment is about to start, no person is in a place where they would be exposed to a risk to their health or safety as a result of the work equipment starting– PUWER Reg. 17(3) e.g. operated in a segregated area where only suitably trained and authorised operators are permitted, or additional safeguarding provided to physically protect persons from being struck by ejected materials (screens etc.).
Shredder Granulator Fragmentiser	Ability to reach blades/cutting mechanism through openings e.g. feed opening, hopper, discharge or inspection points, when machine in operation.	PN	Prevent access to any dangerous part of machinery – PUWER Reg. 11(1)
	No protection from materials ejected during operation (e.g. machine location, fencing etc.).	IN	Failure to protect operator/others from material being ejected from work equipment during operation – PUWER Reg.12
Trommel	No protection from materials ejected during operation (e.g. machine location, fencing etc.).	IN	Failure to protect operator/others from material being ejected from work equipment during operation – PUWER Reg.12
All Machinery and/or work equipment	No means to isolate and lock off power supply to machine (e.g. to enable safe maintenance or to clear blockages).	IN	Work equipment not isolated from source of energy – PUWER Reg. 19 Maintenance operations which involve a risk to health or safety can be carried out while the work equipment is shut down – PUWER Reg. 22 NB: Risks from discharge of residual energy and gravity fall should also be considered.
	Guards removed, damaged or defeated.	PN	Prevent access to any dangerous part of machinery– PUWER Reg. 11(1)
	Incorrect guard in use e.g. fixed v interlock: mechanical, electrical, hydraulic or pneumatic (depending on process/machine).	IN	Guards must be suitable for the purpose for which they are provided – PUWER Reg. 11(3)
	Control devices not clearly visible, marked or reliable, or do not perform function required.	IN	All controls for work equipment are clearly visible and identifiable, including by appropriate marking where necessary – PUWER Reg. 17(1)
	Safety controls (emergency stop etc.) do not function correctly.	PN	Any (safety) control shall bring the work equipment to a complete stop where necessary for reasons of health and safety – PUWER Reg. 15 & 16.
	Operator not trained in safe operation of machine (e.g. adjustment of guards, systems of work etc.)	IN	Training must be provided (even if no dedicated course available) – PUWER Reg. 9
	No system of work established (and understood by persons who may be affected), for safe maintenance/clearing of blockages e.g. isolation, lock-off of power supply, permit to work etc.	IN	Maintenance operations which involve a risk to health or safety can be carried out while the work equipment is shut down – PUWER Reg. 22
	Poor housekeeping arrangements (which could result in persons tripping and falling into dangerous parts of machine).	IN	Workplace maintained in an efficient state, in efficient working order and in good repair – WHSWR Reg.5. Waste materials shall not be allowed to accumulate in a workplace – WHSWR Reg.9

TRANSPORT		
Situation	IEE	Comment
Inadequate segregation of pedestrians and vehicles	IN	Vehicles may use a traffic route without causing danger to the health or safety of persons at work near it – WHSWR Reg. 17
Inadequate collection route risk assessments	IN	Suitable and sufficient assessment of the risks to the health and safety of employees to which they are exposed whilst they are at work – MHSWR Reg. 3
No safe refuges for totters / drivers	PN	Sufficient separation for vehicles and pedestrians using the same traffic route – WHSWR Reg. 17
Untrained drivers/operators	PN & IN	All persons who use work equipment have been provided training in the methods which may be adopted when using the work equipment – PUWER Reg. 9
Inadequate maintenance on vehicles	IN	Work equipment is maintained in an efficient state, in efficient working order and in good repair – PUWER Reg. 6
Failure to thoroughly examine lifting equipment	IN	lifting equipment which is exposed to conditions causing deterioration which is liable to result in dangerous situations is thoroughly examined – LOLER Reg. 9
Raising persons unsafely eg on forks of a lift truck / bucket on excavator	PN	Risk of serious personal injury from fall – Work at Height Reg. 6

HEALTH			
Task	Situation	IEE	Comment
Generation of bioaerosols during the cleaning of plant and equipment (e.g. jet washing).	No or inadequate RPE	PN	RPE (minimum FFP3) will be required to achieve adequate control to exposure to bioaerosols and endotoxins - COSHH Reg. 7 Due to the nature of waste being processed, unless proven otherwise, asthmagens are presumed to be present and therefore the necessary control measures should be implemented.
Asbestos storage	Not bagged or stored in locked skip	IN	Risk of contamination and exposure to persons on site Control of Asbestos Reg. 6,7,11,16 & 24
Asbestos Awareness	No/inadequate training on asbestos awareness	IN	Result in inability to detect asbestos – Control of Asbestos Regulations – Reg. 10
Asbestos handling	Lack of / inadequate procedures for handling asbestos waste	IN / PN	Control of Asbestos Regs 6,7,11,12,13,15 & 16