

Waste & Recycling Sector Workplan 2020-21: 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?

Waste and recycling is a high-risk sector – it has one of the highest rates of workplace injury and work-related ill-health across all industries. The purpose of this inspection programme is to target a) machinery guarding and b) workplace transport at waste and recycling sites. Together, these two issues account for the majority of fatalities in the sector.

1.2. What is the extent of the problem?

Over the last 5 years, there has been an average of 9 fatalities annually in the waste industry. Over three quarters of all fatal injuries were related to transport, machinery and being struck by objects. The fatality rate is around 18 times greater than the rate across all industries per 100,000 workers,

There was also an estimated average of 4,000 non-fatal injuries to workers each year over the last 7 years. The main kinds of accidents involve slips & trips, lifting & handling and being struck by objects.

Further details of the waste sectors injury statistics can be found in the HSE's 'Waste statistics in Great Britain, 2020' (<https://www.hse.gov.uk/statistics/industry/waste-recycling.pdf>)

The top two priorities for the sector are:

- To reduce the number of people being struck by moving vehicles.
- To reduce the number of workers being caught in moving machinery.

Workplace transport

Workplace transport continues to remain a key risk within the waste and recycling industry. Over a five-year period between 2015/16 and 2019/20 a third of deaths in the sector involved moving vehicles. The key factors remain workplace transport arrangements on site; suitability and maintenance of vehicles; and the competence and management of drivers.

Machinery guarding and isolation

Machinery guarding and isolation also remain a key risk within the waste and recycling industry. Over a five-year period between 2015/16 and 2019/20 approximately a third of deaths in the sector were the result of persons coming into contact with dangerous parts of machinery. The key factors remain preventing access to dangerous parts of machinery; and the failure to develop, implement and supervise appropriate procedures for clearing blockages and maintenance (i.e. isolation and lock-off).

1.3. What must be covered at the inspections?

- The key safety risks from transport and machinery through suitable control measures
- Any matters of evident concern (MEC) – see [Appendix 5.2](#)
- Any matters of potential major concern (MPMC) - see [Appendix 5.2](#)

1.4. 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
Machinery Safety Standards	Mechanical Specialist Inspectors
Transport Safety Standards	Mechanical Specialist Inspectors (vehicle) Construction Specialist Inspectors (site)
Industry standards & enforcement benchmarks	Waste and Recycling Sector wasteandrecycling@hse.gov.uk

Important Other Guidance for Inspections	Guidance location
Machinery Information Sheets (internal only)	CM9 / Sharepoint
Waste Industry Safety and Health Forum (WISH) guidance – ‘not for profit’ industry body which develops industry guidance and standards for benchmarking	https://www.wishforum.org.uk/ https://www.wishforum.org.uk/wish-guidance/

3. Recording of inspections

Capturing information from inspections is essential for the Sector to analyse the outcomes and impact. Answers to the following six questions must be recorded in the text area of ‘Plant and Equipment’ and ‘Workplace Transport’ risk areas of DO IT for all HRS inspections. Answers should be kept short and succinct but include sufficient information to give a clear understanding of the issues and action taken.

Questions

1. What processes are carried out and equipment used?
2. Are control measures adequate to manage the risks?
3. If control measures are not adequate, what are the specific control failings (i.e. control measures not being identified, used, checked, or maintained)?
4. Are there any management failings (e.g. policy, planning, information, training, supervision, monitoring, competence, leadership)?
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]

Where inspections are of sites that have been the subject of previous, recent enforcement action, please could the following **additional** questions be answered:

7. Has there been sustained compliance in the control of those health and safety risks enforced upon at the previous visit?
8. If not, what are the reasons for failing to maintain continued control?
9. Were additional uncontrolled risks identified and if so what were they?

4. Your Health and Safety

Sub-sector-specific health and safety information is detailed in the appendices 5.1.1. – 6.5. General health & safety information for visiting staff is on the [intranet](#)

Additional health and safety precautions are generally not necessary e.g. two-person inspections.

- **PPE** - You should 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.
- **RPE** - it is HSE policy across all industries that Inspectors should not enter any area where there is evidence of a respirable hazard or a need to wear respiratory protective equipment (RPE) to control exposures to substances hazardous to health **unless** they are identified as authorised RPE wearers. See <http://intranet.hse.int/yourhealthsafety/safety/respiratory.htm>.
- Check intranet for '[Your Health and Safety](#)' relating to the COVID-19 pandemic.

- **Ionising radiation** - Visiting staff should be aware that work with ionising radiation may be taking place in waste and recycling sector premises in the form of radioactive sources for gauging purposes and/or X-ray equipment to identify the chemical composition of materials (hand held X-ray fluorescence (XRF) devices also known as Positive Material Identification (PMI) guns). Staff should not engage in any form of inspection of this work in line with the radiation inspection policy - Inspection of work involving ionising radiation (hse.int). Any concerns with this work can be reported to Stewart Robertson – Radiation Principal Inspector ext. 2475.

5. Appendices

Appendix 5.1. Industry specific information

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Appendix 5.1.1: Civic Amenity / Bring / Household Waste Recycling 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 e.g. supermarket car parks.</p> <p>Hand sorting of residual black bag waste is an activity which is increasingly taking place at HWRCs. The aim is to increase recycling rates and educate members of the public and may be carried out by the operatives or the MOPs themselves. HSE have clarified the legal position with the industry and stated that, if these activities are to continue, an assessment of the risks must be completed and necessary control measures put in place whether it be for operatives or members of the public. (See Priorities below).</p>
Health and safety
<p>Inspectors are 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.</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
<p>For each of the sections below, please also assess how site management ensure sustained compliance with their procedures through monitoring and review to complete the plan, do, check, act management system.</p> <p>Transport</p> <p><u>Safe site</u></p> <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, 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? <p><u>Members of the Public</u></p> <ul style="list-style-type: none"> ➤ Are there clear signs at site entrance directing Members of the public to clear parking / drop off zones that are as close as possible to unloading bays? ➤ Have vulnerable users such as the elderly/disabled/distracted been considered? Are children left in cars? ➤ Are all provisions in Wish Waste 26 relating to members of the public adhered to? <p><u>Safe vehicles</u></p> <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? <p><u>Safe drivers</u></p> <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 and MOPs supervised and monitored whilst on site?

Slips/Trips

- 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)

- 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

- 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 (e.g. aerosols, solvents, LPG cylinders, batteries) stored securely and safely?

Bioaerosols

- Are they aware of what bioaerosols are? Are they aware of health risks and symptoms of exposure?
- Have they identified tasks/activities that could generate bioaerosols, for example:
 - Manual sorting or picking through waste;
 - Cleaning of surfaces/equipment where organic waste residues are present e.g. pressure hosing insides of skips, dry sweeping etc...
 - Dismantling of equipment which may have collected or grown organic matter over time (e.g. food deposits/mould in fridges).
 - Working in close proximity to where garden waste is being mechanically moved.
- Have cleaning and dismantling tasks generating bioaerosols been eliminated or adequately controlled e.g. pressure hosing or dry sweeping?
- Where exposure to bioaerosols cannot be adequately controlled, has suitable and sufficient Respiratory Protective Equipment (RPE) been provided (e.g. FFP3 or air-fed masks) in combination with other control measures?
- **COSHH – Hand Sorting of Black Bag Waste**
- Has the HWRC operator assessed the health and safety risks to employees and others (e.g. MOPs) that arise from hand sorting of black bag waste?
- In particular, have they considered:
 - Injection/dermal contact with blood borne viruses/pathogenic bacteria as a result of damage to the skin from sharps (needles, broken glass)
 - Contact with hazardous chemicals
 - Inadvertent ingestion of pathogenic bacteria (from nappies, cat litter etc...) due to poor hygiene measures.
 - Possible inhalation of bioaerosols from organic waste.
- Have all appropriate measures to control the risks identified above been implemented e.g. PPE (gloves, masks, aprons etc... and any necessary equipment (e.g. picking tongs), as well as adequate welfare facilities (e.g. hand washing facilities)?
- Where members of the public are required to hand sort their own black bag waste, have all the appropriate control measures identified above been provided to them, and have operators considered the potential for violence and aggression?
- Is adequate monitoring and supervision in place?

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' in the waste management and recycling industry

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

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 5.1.2 - 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>Inspectors are 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.</p> <p>Please note that it is HSE's policy across all industries that Inspectors should not enter any area where there is evidence of a respirable hazard or a need to wear respiratory protective equipment (RPE) to control exposures to substances hazardous to health unless they are identified as authorised RPE wearers. For further information see http://intranet.hse.int/yourhealthsafety/safety/respiratory.htm. If you still are unsure as to the implications of this policy then please seek advice from Occupational Hygiene Specialist Inspectors. If you are on site and encounter a designated RPE area, then do not enter, and seek support from an authorised RPE wearer.</p> <p>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. For further information see http://intranet.hse.int/yourhealthsafety/safety/visiting-explosives.htm.</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
Identify and record the following information on your inspection case as per Section 3.
Priorities
<p>For each of the sections below, please also assess how site management ensure sustained compliance with their procedures through monitoring and review to complete the plan, do, check, act management system.</p> <p>Transport</p> <p><u>Safe site</u></p> <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? <p><u>Safe vehicles</u></p> <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

- 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 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 e.g. personal padlocks, multi hasp 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 what bioaerosols are? Are they aware of health risks and symptoms of exposure?
- Have they considered the increased risk of bioaerosol generation during the following activities:
 - Manual sorting or picking through waste;
 - Maintenance and cleaning activities e.g. compressed air, dry brushing etc...;
 - Working inside buildings near to where waste is being moved by heavy plant eg tipping halls.
- Have cleaning and maintenance tasks generating bioaerosols e.g. pressure hosing, compressed air use, dry sweeping been eliminated where reasonably practicable?
- Where exposure to bioaerosols cannot be adequately controlled, has suitable and sufficient Respiratory Protective Equipment (RPE) been provided (e.g. disposable FFP3 half masks, reusable half mask with P3 filter, powered hood/helmet with P3 filter) in combination with other control measures?

Asbestos

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

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

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 5.1.3 - Mechanical Biological Treatment (MBT)

Introduction
<p>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).</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> ○ 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. <p>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.</p>
Health and safety
<p>Inspectors are 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 eg eye protection, hearing protection and hard hat.</p> <p>Please note that it is HSE's policy across all industries that Inspectors should not enter any area where there is evidence of a respirable hazard or a need to wear respiratory protective equipment (RPE) to control exposures to substances hazardous to health unless they are identified as authorised RPE wearers. For further information see http://intranet.hse.int/yourhealthsafety/safety/respiratory.htm. If you still are unsure as to the implications of this policy then please seek advice from Occupational Hygiene Specialist Inspectors. If you are on site and encounter a designated RPE area, then do not enter, and seek support from an authorised RPE wearer.</p> <p>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. For further information see http://intranet.hse.int/yourhealthsafety/safety/visiting-explosives.htm.</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
Identify and record the following information on your inspection case as per Section 3.
Priorities
<p>For each of the sections below, please also assess how site management ensure sustained compliance with their procedures through monitoring and review to complete the plan, do, check, act management system.</p> <p>Machinery</p> <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 e.g. personal padlocks, multi hasp 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 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?

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 what bioaerosols are? Are they aware of health risks and symptoms of exposure?
- Have they considered the increased risk of bioaerosol generation during the following activities:
 - Manual sorting or picking through waste;
 - Maintenance and cleaning activities e.g. compressed air, dry brushing etc...;
 - Working inside buildings near to where waste is being moved by heavy plant e.g. tipping halls.
- Have cleaning and maintenance tasks generating bioaerosols e.g. pressure hosing, compressed air use, dry sweeping been eliminated where reasonably practicable?
- Where exposure to bioaerosols cannot be adequately controlled, has suitable and sufficient Respiratory Protective Equipment (RPE) been provided (e.g. disposable FFP3 half masks, reusable half mask with P3 filter, powered hood/helmet with P3 filter) in combination with other control measures?

Musculoskeletal Risks (MSDs)

- Have the risks associated with manual handling activities been suitably assessed?

<ul style="list-style-type: none"> ➤ Are there opportunities to use mechanical aids to replace manual handling? ➤ Are workers appropriately trained?
Guidance
<p>HSE webpage "Mechanical biological treatment" http://www.hse.gov.uk/waste/mechanical-bio.htm</p> <p>"Recover paper safely" http://www.hse.gov.uk/pubns/indg392.pdf</p> <p>Waste 03 – Orphaned gas cylinders in the waste & recycling industry</p> <p>Waste 08 - Compactor Equipment: Public and User Safety</p> <p>Waste 09 - Safe transport at waste and recycling sites</p> <p>Waste 18 – Hand sorting of recyclables ('totting') with vehicle assistance</p>
Contacts
<p>wasteandrecycling@hse.gov.uk</p>

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 5.1.4 - Metal Recycling including End of Life Vehicles (ELV)

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>Inspectors are 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.</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
<p>For each of the sections below, please also assess how site management ensure sustained compliance with their procedures through monitoring and review to complete the plan, do, check, act management system.</p> <p>Machinery</p> <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 e.g. personal padlocks, multi hasp locks? ➤ Have all operators been suitably trained in the use of the machine they are operating? ➤ Have risk assessments considered engineering/maintenance activities? <p>Transport</p> <p><u>Safe site</u></p> <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? <p><u>Safe vehicles</u></p> <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

- 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? eg:
 - Is the site operator aware of the safe workload/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 6.1.2](#) 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>

"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>

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

[Waste 08](#) - Compactor Equipment: Public and User Safety

[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 5.1.5 - Skip Safety

Introduction
<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>
Health and safety
<p>Inspectors are 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.</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>Skips and containers themselves do not require thorough examination under LOLER, but do require inspection under PUWER.</p> <p>Identify and record the following information on your inspection case as per Section 3.</p>
Priorities
<p>For each of the sections below, please also assess how site management ensure sustained compliance with their procedures through monitoring and review to complete the plan, do, check, act management system.</p> <p>Collection/transfer of skips</p> <ul style="list-style-type: none"> ➤ 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 SFARP?
- 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? i.e.
 - 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 "Hook Loaders and Skips, Load security when raising and lowering"
www.hse.gov.uk/waste/hookloader.htm

HSE webpage "Wishbone bale bars – Failure of lifting bars on waste compaction containers (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

HSE webpage – Waste Management Frequently asked questions When does LOLER apply to Waste & Recycling equipment <http://www.hse.gov.uk/waste/faqs.htm>

HSE webpage – Waste Management Frequently asked questions How do I safely stack bales of waste material
[Waste Management: Frequently Asked Questions](#)

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 5.1.6 - Waste Electrical and Electronic Equipment (WEEE)

Introduction
<p>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:</p> <ul style="list-style-type: none"> ○ 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. <p>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.</p>
Health and safety
<p>Inspectors are 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.</p> <p>Please note that it is HSE's policy across all industries that Inspectors should not enter any area where there is evidence of a respirable hazard or a need to wear respiratory protective equipment (RPE) to control exposures to substances hazardous to health unless they are identified as authorised RPE wearers. For further information see http://intranet.hse.int/yourhealthsafety/safety/respiratory.htm. If you still are unsure as to the implications of this policy then please seek advice from Occupational Hygiene Specialist Inspectors. If you are on site and encounter a designated RPE area, then do not enter, and seek support from an authorised RPE wearer.</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>Inspectors could potentially discover a range of hazardous substances at a WEEE Recycling Plant, including:</p> <ul style="list-style-type: none"> ○ 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). <p>Identify and record the following information on your inspection case as per Section 3.</p>
Priorities
<p>For each of the sections below, please also assess how site management ensure sustained compliance with their procedures through monitoring and review to complete the plan, do, check, act management system.</p> <p>Machinery</p> <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 e.g. personal padlocks, multi hasp 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 SFARP?
- 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? Are any classified as carcinogens, mutagens or asthmagens?
- If relevant, have suitable control measures been introduced to ensure exposure below the WEL and for substances classified as carcinogens, mutagens or asthmagens to as low a level as reasonably practicable?
- Are control measures maintained in a clean state and in 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 (if required) 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?

Bioaerosols

- Are they aware of what bioaerosols are? Are they aware of health risks and symptoms of exposure?
- Have they identified tasks/activities that could generate bioaerosols, for example:
 - Cleaning of surfaces where organic waste residues are present e.g. pressure hosing insides of skips, dry sweeping etc...
 - Dismantling of equipment which may have collected or grown organic matter over time (e.g. food deposits/mould in fridges).
- Have cleaning and dismantling tasks generating bioaerosols been eliminated or adequately controlled e.g. pressure hosing or dry sweeping?
- Where exposure to bioaerosols cannot be adequately controlled, has suitable and sufficient Respiratory Protective Equipment (RPE) been provided (e.g. FFP3 or air-fed masks) in combination with other control measures?

Guidance

“Waste Electrical and Electronic Equipment recycling (WEEE) <http://www.hse.gov.uk/waste/waste-electrical.htm>

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

[Waste 08](#) - Compactor Equipment: Public and User Safety

[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 5.1.7 Waste Transfer Stations

Introduction
<p>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.</p> <p>Often Waste transfer stations may be a combination of different processes.</p>
Health and safety
<p>Inspectors are 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.</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>Identify and record the following information on your inspection case as per Section 3.</p>
Priorities
<p>For each of the sections below, please also assess how site management ensure sustained compliance with their procedures through monitoring and review to complete the plan, do, check, act management system.</p> <p>Transport</p> <p><u>Safe site</u></p> <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? ➤ 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 e.g. to prevent vehicles reversing into reception pits? <p><u>Safe vehicles</u></p> <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? <p><u>Safe drivers</u></p> <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? <p>Machinery</p> <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 e.g. personal padlocks, multi hasp 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 what bioaerosols are? Are they aware of health risks and symptoms of exposure?
- Have they considered the increased risk of bioaerosol generation during the following activities:
 - Manual sorting or picking through waste;
 - Maintenance and cleaning activities e.g. compressed air, dry brushing etc...;
 - Working inside buildings near to where waste is being moved by heavy plant e.g. tipping halls.
- Have cleaning and maintenance tasks generating bioaerosols e.g. pressure hosing, compressed air use, dry sweeping been eliminated where reasonably practicable?
- Where exposure to bioaerosols cannot be adequately controlled, has suitable and sufficient Respiratory Protective Equipment (RPE) been provided (e.g. disposable FFP3 half masks, reusable half mask with P3 filter, powered hood/helmet with P3 filter) in combination with other control measures?

Guidance

For those carrying out hand totting, tatting or picking from floor activities, a [Checklist \(https://www.hse.gov.uk/waste/checklist.htm\)](https://www.hse.gov.uk/waste/checklist.htm) is available. Although it is not comprehensive, the self-audit can be used as an aide memoire.

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

[Waste 08](#) - Compactor Equipment: Public and User Safety

[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 5.2

Examples of industry specific Matters of Evident Concern (MEC) and 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 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 28 - 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 Brief 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	Damaged or poorly maintained bay / bunker walls Evidence of overloading or overfilling of bays	Consult SG and/or Waste and Recycling Sector team

Appendix 5.3

Initial Enforcement Expectations for Waste and Recycling Activities

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.
	Safety interlocks and/or guards defeated.	PN and consider prosecution	Prevent access to any dangerous part of machinery – PUWER Reg. 11(1).
	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	PN	Prevent access to any dangerous part of machinery – PUWER Reg. 11(1)

	needed e.g. for maintenance/cleaning.		
	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 continuously operates independent of foot pedal.	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 – HASWA s.2 & 3 (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 e.g. 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
Cleaning and Maintenance activities that generate bioaerosols.	No or inadequate RPE.	IN	Cleaning of surfaces where organic waste residues are present e.g. pressure hosing insides of skips, dry brushing/ machine/conveyor surfaces, floors inside tipping

Manual sorting or picking through waste (exposure to bioaerosols)	No or inadequate RPE.	IN	halls etc... Some maintenance tasks may require surface cleaning e.g. use of compressed air to clean air filters. Elimination of dust or aerosol raising cleaning methods should be encouraged. Alternatives such as mechanical shovels, vacuums or damp methods used whenever practicable.
Employees working for prolonged periods near to where waste is being moved e.g. tipping halls. (exposure to bioaerosols)	No or inadequate RPE.	IN	Where this is not practicable, suitable RPE will be required to achieve adequate control (e.g. disposable FFP3 half masks, reusable half mask with P3 filter, powered hood/helmet with P3 filter) - COSHH Reg 7 Wearers not face fit tested (tight fitting masks) (see INDG 479) – COSHH Reg 7 Wearers not trained in how to wear RPE correctly Evidence includes: facial hair, hats, glasses, other PPE interfering with RPE tight fit - COSHH Reg 8. No suitable arrangements for maintenance and cleaning (non-disposable RPE only), storage and replacement. Evidence includes filters with signs of clogging - COSHH Reg 9.
Welding and allied processes	Indoor/outdoor regular high intensity welding		See Manufacturing Sector workplan 2019/20 Occupational Lung Disease OG for IEE's https://www.hse.gov.uk/foi/internalops/og/og-00109.pdf
	Indoor/outdoor sporadic or low intensity welding		See Manufacturing Sector workplan 2019/20 Occupational lung disease OG for IEE's https://www.hse.gov.uk/foi/internalops/og/og-00109.pdf
	Flame cutting/burning metal waste with no controls	IN	Flame cutting/burning can produce significant fume, the following should be considered: Exclusion Zone: The extent of any zone around burning work and downwind should be reviewed. Other workers should not be in the vicinity of the fume unless using appropriate RPE. 'Enclosed' Work: Engineering controls should be considered for flame cutting work in enclosed areas or where there is no natural dispersion away from the burner. Surface Coatings: Surface coatings e.g. old paint, resins may contain other highly toxic components e.g. lead and organic thermal breakdown products. Suitable RPE e.g. powered welding helmet with a A2P3 (organic vapour/particulate) filter should be worn. COSHH Reg 7
Health Surveillance	No health surveillance programme in place where there is a risk from inhalation exposure to a substance that will or may result in occupational asthma.	IN	Inadequate provision: IEE NOC – COSHH Reg 11 Discuss with SG Occupational Health where necessary.
Information, Instruction and Training	None provided to employees who may be at risk from exposure to bioaerosols, welding fume, RCF (catalytic converters).	IN	Employees should be aware of the ill health risks/symptoms associated with exposure and the controls in place to prevent or reduce exposure in their work areas/activities - COSHH Reg 12

Asbestos storage	Not bagged/wrapped or stored within a lockable skip.	IN	Control of Asbestos Reg. 6, 7,11,16 & 24
Asbestos awareness	No/inadequate training.	IN	Topics should include identification of asbestos products, potential risks to health from exposure, safe handling and storage of asbestos waste, emergency procedures including decontamination and RPE. Control of Asbestos Reg. 10
Asbestos Handling	Lack of / inadequate procedures for handling asbestos waste.	IN / PN	A PN would be appropriate where there is evidence of mechanical handling of bagged asbestos waste and/or evidence of significant amounts of asbestos debris around the premises. Control of Asbestos Regs 6, 7,11,12,13,15 & 16

Appendix 6 – Sub-sectors NOT to be inspected in Q4 2020 / 21

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

Note – the following subsectors should not be inspected as part of this initiative. These are contained in Appendix 6 for information only.

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Appendix 6.1: Anaerobic Digestion

Introduction
<p>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).</p> <p>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.</p> <p>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.</p>
Health and safety
<p>Inspectors are 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.</p> <p>Please note that it is HSE's policy across all industries that Inspectors should not enter any area where there is evidence of a respirable hazard or a need to wear respiratory protective equipment (RPE) to control exposures to substances hazardous to health unless they are identified as authorised RPE wearers. For further information see http://intranet.hse.int/yourhealthsafety/safety/respiratory.htm. If you still are unsure as to the implications of this policy then please seek advice from Occupational Hygiene Specialist Inspectors. If you are on site and encounter a designated RPE area, then do not enter, and seek support from an authorised RPE wearer.</p> <p>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. For further information see http://intranet.hse.int/yourhealthsafety/safety/visiting-explosives.htm.</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 (e.g. check the site permit for the correct legal entity of the operator).</p> <p>Inspect in accordance with priorities below. 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 initially seek assistance from their local Process Safety Specialist Champions.</p> <p>Identify and record the following information on your inspection case as per Section 3.</p>
Priorities
<p>For each of the sections below, please also assess how site management ensure sustained compliance with their procedures through monitoring and review to complete the plan, do, check, act management system.</p> <p>Transport</p> <p><u>Safe site</u></p> <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?

- 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 e.g. 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 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 e.g. personal padlocks, multi hasp 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 (e.g. planned, safe system of work, suitable equipment, competent workers, emergency rescue procedures, etc...)?

Bioaerosols

- Are they aware of what bioaerosols are? Are they aware of health risks and symptoms of exposure?
- Have they considered the increased risk of bioaerosol generation during the following activities:
 - Manual sorting or picking through waste;
 - Maintenance and cleaning activities e.g. compressed air, dry brushing etc...;
 - Working inside buildings near to where waste is being moved by heavy plant e.g. tipping halls.
- Have cleaning and maintenance tasks generating bioaerosols e.g. pressure hosing, compressed air use, dry sweeping been eliminated where reasonably practicable?
- Where exposure to bioaerosols cannot be adequately controlled, has suitable and sufficient Respiratory Protective Equipment (RPE) been provided (e.g. disposable FFP3 half masks, reusable half mask with P3 filter, powered hood/helmet with P3 filter) in combination with other control measures?

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?
- Checks etc...?

Guidance
<p>HSE webpage "Disposal and energy recovery" http://www.hse.gov.uk/waste/disposal.htm</p> <p>ADBA "Best Practice Checklists" http://adbioresources.org/our-work/best-practice-scheme/best-practice-checklists</p> <p>Waste 09 - Safe transport at waste and recycling sites</p> <p>http://www.hse.gov.uk/pUbn/priced/l101.pdf - "Safe work in confined spaces" Approved Code of Practice and guidance L101</p> <p>http://www.hse.gov.uk/pubns/guidance/oce6.pdf - "Hydrogen sulphide" OCE6</p>
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/pUbn/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 http://www.hse.gov.uk/fireandexplosion/ds-ear-regulations.htm INDG370(rev1) Controlling Fire and Explosion Risks in the Workplace HSG 51 Safe Storage of Flammable Liquids in containers Safe use and handling of flammable liquids - HSG140
		Inadequate control of ignition sources in hazardous areas e.g. non-ATEX certified equipment, ineffective permits for hot work etc...	
		Inadequate explosion relief	
		Inadequate storage and use of flammable liquids.	

Appendix 6.2: Catalytic Converter Recycling

Introduction
<p>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.</p> <p>The honeycomb centre is insulated by support matting. This matting may contain refractory ceramic fibres (RCF). RCF is a known/presumed human carcinogen; inhalation of respirable fibres can cause lung cancer. 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 has a Workplace Exposure Limit (WEL) of 1 fibre/millilitre (5mg.m-3). RCF is classified as a carcinogen under COSHH i.e. exposure to RCF should be reduced as low a level as reasonably practicable.</p> <p>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.</p>
Health and safety
<p>Inspectors are 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.</p> <p>Please note that it is HSE's policy across all industries that Inspectors should not enter any area where there is evidence of a respirable hazard or a need to wear respiratory protective equipment (RPE) to control exposures to substances hazardous to health unless they are identified as authorised RPE wearers. For further information see http://intranet.hse.int/yourhealthsafety/safety/respiratory.htm. If you still are unsure as to the implications of this policy then please seek advice from Occupational Hygiene Specialist Inspectors. If you are on site and encounter a designated RPE area, then do not enter, and seek support from an authorised RPE wearer.</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>If you are intending to inspect a site that is believed to recycle catalytic converters, then it is recommended that you discuss the specific health issues with an Occupational Hygiene Specialist Inspector.</p> <p>Full site inspection in accordance with priorities required in addition to the inspection of exposure to RCF.</p>
Priorities
<p>For each of the sections below, please also assess how site management ensure sustained compliance with their procedures through monitoring and review to complete the plan, do, check, act management system.</p> <p>Catalytic converter recycling</p> <ul style="list-style-type: none"> ➤ 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 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 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 e.g. personal padlocks, multi hasp 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 SFARP?
- 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>

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	PN/IEE	Comment
Cutting and removal of the ceramic core material (referred to as 'decanning')	No or ineffective LEV	PN/IN	<p>Refractory Ceramic Fibre (RCF) is classified as a carcinogen and currently has a WEL of 1 fibre/millilitre (5mg.m-3).</p> <p>LEV required for removal of the ceramic core material (referred to as 'decanning') COSHH Reg 7</p> <p>Consider a PN and possible PR where there is evidence of repeated and/or prolonged exposure to high concentrations of RCF and where there are no controls in place.</p> <p>An IN should be considered where the controls in place are only partially effective and improvements are needed e.g. to the LEV, segregation arrangements or RPE provision.</p>
	No consideration of exposure during cleaning/maintenance (and therefore no control measures introduced)	PN/IN	<p>Refractory Ceramic Fibre (RCF) is classified as a carcinogen and currently has a WEL of 1 fibre/millilitre (5mg.m-3).</p> <p>Where cleaning and maintenance tasks generate airborne RCF suitable and sufficient RPE is required (e.g. disposable FFP3 half masks, reusable half mask with P3 filter, powered hood/helmet with P3 filter). COSHH Reg 7</p> <p>Consider a PN and possible PR where there is evidence of repeated and/or prolonged exposure to high concentrations of RCF and where there are no controls in place.</p> <p>An IN should be considered where the controls in place are only partially effective and improvements are needed e.g. to RPE provision.</p>
	<p>LEV is present but poorly:</p> <ul style="list-style-type: none"> • Designed; and/or • Maintained; and/or • Operated/adjusted; <p>as residual visible dust present</p>	IN	<p>Suitably designed LEV to control fume:</p> <ul style="list-style-type: none"> • Extracted enclosure. <p>Evidence of adequately maintained LEV includes no signs of damage e.g. split/compressed ducting, filters changed when blocked, pre-use checks to ensure sufficient air flow e.g. manometer.</p> <p>Evidence of correct use of LEV (extracted enclosure) will include;</p> <ul style="list-style-type: none"> • Operative not leaning into the enclosure; • Ensuring levering/scraping matting from the canisters takes place well inside the enclosure (but without leaning inside); • Minimising the drop height which the ceramic core material / loose mat has to fall; • Working with minimal force (to reduce generation of dust). <p>COSHH Regs 7, 8 and 9</p>

Appendix 6.3: Collections

Introduction / Description / Background
<p>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).</p> <p>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..).</p> <p>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.</p> <p>When assessing the risks and evaluating the various options available it is essential that all hazards are identified and evaluated (e.g. Musculoskeletal injury, cuts, slips and trips, transport etc..).</p> <p>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.</p> <p>"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.</p> <h3>Commercial Collections</h3> <p>There are some local authorities who will offer this as an income generating service to complement their domestic services. Often this will be a driver only operation. There will not be route risk assessments as the customer collection frequency varies from daily to 8 weekly, but there should be a form of site assessment/on site risk assessment for the collection.</p> <p>Often, commercial waste collections are undertaken by private contractors - often smaller or regional operators. Operators are often chosen on the basis of cost. Collections are likely to be refuse, recycling, there will be some source segregated collections such as cardboard, glass and food. The containers will vary from sacks, more often than not they will be in wheeled bin, and sometime FELs</p> <p>There are some national retailers etc. that implement national contracts/corporate accounts for their collections. This would mean that an operator will be chosen to undertake this service across all their premises. Where an operator cannot offer a service in a particular location, this work may be contracted out. It should not be unrealistic to expect there to be a monitoring and review process in place that may be similar for the model used for domestic collections.</p> <p>The key issues that will arise out of these collections are:</p> <ul style="list-style-type: none">* Route planning* Consideration of physical exertion/fatigue* The suitability of services that the customer has signed up to* The access and suitability of the storage arrangements that the customer has in place for their containers* on site hazards* distance between parking and bin store* security of containers to prevent unauthorized access/people in bins (EPA duty on the waste producer to keep their waste safe and secure)* volume/weight of waste produced* site access* how does the customer respond when we flag H&S issues* timing of collections* restrictive vehicle access policies to prevent vehicle access in the quietest times of day* management of reversing* control and access in busy pedestrian areas* How is monitoring and supervision undertaken?
Health and safety

Inspectors are 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.

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

For each of the sections below, please also assess how site management ensure sustained compliance with their procedures through monitoring and review to complete the plan, do, check, act management system.

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 e.g. 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?

Bioaerosols

- Are they aware of what bioaerosols are? Are they aware of health risks and symptoms of exposure?
- Have they considered the increased risk of bioaerosol generation during the following activities:
 - Manual sorting or picking through waste;

<ul style="list-style-type: none"> ○ Maintenance and cleaning activities e.g. compressed air, dry brushing etc...; ○ Working inside buildings near to where waste is being moved by heavy plant e.g. tipping halls. ➤ Have cleaning and maintenance tasks generating bioaerosols e.g. pressure hosing, compressed air use, dry sweeping been eliminated where reasonably practicable? ➤ Where exposure to bioaerosols cannot be adequately controlled, has suitable and sufficient Respiratory Protective Equipment (RPE) been provided (e.g. disposable FFP3 half masks, reusable half mask with P3 filter, powered hood/helmet with P3 filter) in combination with other control measures? <p>Noise</p> <p>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.</p>
Guidance
<p>WISH Waste 03 Information sheet - Effective Proactive Monitoring in Waste and Recycling Collection Activities</p> <p>Waste 04 – Waste and Recycling Vehicles in Street Collection</p> <p>Waste 05 – Safe use of Refuse Collection Vehicle hoists and bins</p> <p>Waste 16 – Reducing noise risks from “kerbside” glass collection</p> <p>Waste 23 – Safe Waste and Recycling Collection Services</p> <p>http://www.hse.gov.uk/waste/services/index.htm</p>
Contacts
<p>wasteandrecycling@hse.gov.uk</p>

For IEEs and examples of MPMC see Appendix 5.2 & 5.3

Appendix 6.4: Energy from Waste

Introduction
<p>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.</p> <p>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.</p> <p>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.</p>
Health and safety
<p>Inspectors are 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.</p> <p>Please note that it is HSE's policy across all industries that Inspectors should not enter any area where there is evidence of a respirable hazard or a need to wear respiratory protective equipment (RPE) to control exposures to substances hazardous to health unless they are identified as authorised RPE wearers. For further information see http://intranet.hse.int/yourhealthsafety/safety/respiratory.htm. If you still are unsure as to the implications of this policy then please seek advice from Occupational Hygiene Specialist Inspectors. If you are on site and encounter a designated RPE area, then do not enter, and seek support from an authorised RPE wearer.</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>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 should initially seek assistance from their local Process Safety Specialist Champions.</p> <p>Identify and record the following information on your inspection case as per Section 3.</p>
Priorities
<p>For each of the sections below, please also assess how site management ensure sustained compliance with their procedures through monitoring and review to complete the plan, do, check, act management system.</p> <p>Transport</p> <p><u>Safe site</u></p> <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? ➤ 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 e.g. to prevent vehicles reversing into reception pits? <p><u>Safe vehicles</u></p> <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

- 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 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 e.g. personal padlocks, multi hasp 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 what bioaerosols are? Are they aware of health risks and symptoms of exposure?
- Have they considered the increased risk of bioaerosol generation during the following activities:
 - Manual sorting or picking through waste;
 - Maintenance and cleaning activities e.g. compressed air, dry brushing etc...;
 - Working inside buildings near to where waste is being moved by heavy plant e.g. tipping halls.
- Have cleaning and maintenance tasks generating bioaerosols e.g. pressure hosing, compressed air use, dry sweeping been eliminated where reasonably practicable?
- Where exposure to bioaerosols cannot be adequately controlled, has suitable and sufficient Respiratory Protective Equipment (RPE) been provided (e.g. disposable FFP3 half masks, reusable half mask with P3 filter, powered hood/helmet with P3 filter) in combination with other control measures?

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>

[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 6.5: 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>Inspectors are 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.</p> <p>Please note that it is HSE's policy across all industries that Inspectors should not enter any area where there is evidence of a respirable hazard or a need to wear respiratory protective equipment (RPE) to control exposures to substances hazardous to health unless they are identified as authorised RPE wearers. For further information see http://intranet.hse.int/yourhealthsafety/safety/respiratory.htm. If you still are unsure as to the implications of this policy then please seek advice from Occupational Hygiene Specialist Inspectors. If you are on site and encounter a designated RPE area, then do not enter, and seek support from an authorised RPE wearer.</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>The 2019/20 Inspection campaign includes a limited number of inspections of pre-selected sites performing a range of processes and activities that involve the handling of organic waste, some of which may involve composting. These visits should be recorded as HRS but please insert the keyword '#Bioaerosol' in the COIN case summary field.</p> <p>Identify and record the following information on your inspection case as per Section 3.</p>
Priorities
<p>For each of the sections below, please also assess how site management ensure sustained compliance with their procedures through monitoring and review to complete the plan, do, check, act management system.</p> <p>Machinery</p> <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 e.g. personal padlocks, multi hasp 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 SFARP?
- 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?

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?

Bioaerosols

- Are they aware of what bioaerosols are? Are they aware of health risks and symptoms of exposure?
- Have they identified tasks/activities that could generate bioaerosols, for example;
 - turning actively composting material
 - screening composted material
 - maintenance and cleaning equipment.
- For those working within a vehicle cab, with an adequate, well maintained, filtration system then RPE may not be needed, but can the duty holder demonstrate the effectiveness of the cab filter and a proper system of work such as ensuring staff keep their cab doors and windows closed.
- Where exposure to bioaerosols cannot be adequately controlled, has suitable and sufficient Respiratory Protective Equipment (RPE) been provided (e.g. FFP3 or air-fed masks) in combination with other control measures? RPE is likely to be required by workers when shredding, turning, screening or moving composting material or whenever leachate is either sprayed or transferred from one place to another. This precaution is likely to be required by anyone within 30 metres of such a procedure, and for five minutes afterwards.

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>

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

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

Contacts

wasteandrecycling@hse.gov.uk

For IEEs and examples of MPMC see Appendix 5.2 & 5.3