



WMRAS
Waste Management & Recycling
Association of Singapore

Workplace Safety and Health Guidelines for General Waste Management



TABLE OF CONTENTS

1.	INTRODUCTION	4
1.1	Scope	4
2.	WASTE MANAGEMENT PROCESS	4
2.1	Waste Generation	4
2.2	Waste Collection	4
2.3	Waste Transportation	5
2.4	Waste Disposal	5
2.5	Waste Management (Post-Disposal)	5
3.	WORKPLACE SAFETY AND HEALTH ACT	5
3.1	Other Relevant Legislation	6
3.2	Roles and Responsibilities Under the Workplace Safety and Health Act	6
3.2.1	Occupier	7
3.2.2	Principal	7
3.2.3	Employer	7
3.2.4	Employee	8
4.	RISK MANAGEMENT	8
4.1	Risk Assessment	8
5.	TYPES OF HAZARDS (AND CORRESPONDING CONTROL MEASURES)	10
5.1	Mechanical	11
5.2	Electrical	12
5.3	Work at Height	13
5.4	Slips, Trips and Falls	13
5.5	Exposure to Loud Noises	14
5.6	Biological	14
5.7	Fire and Explosions	14
5.8	Struck by Falling Objects	14
5.9	Vehicular	15
5.10	Ergonomics	16
5.11	Exposure to Inclement Weather	16
5.12	Stress and Fatigue	16
6.	ACKNOWLEDGMENTS	17
7.	REFERENCES	18
	Annex A – Relevant Terms Adapted From Code of Practice for Licensed General Waste Collectors	19
	Annex B – Penalties Under the Workplace Safety and Health Act	22
	Annex C – Sample Risk Assessment Form	23

1. INTRODUCTION

Waste management is a diverse and multi-faceted industry comprising of services like waste collection, sorting, recycling, and waste-to-energy capabilities, among others. Waste management workers are exposed to various hazards in their duties, and measures must be taken to ensure their safety and well-being.

1.1 Scope

This set of Workplace Safety and Health (WSH) Guidelines focuses on providing information and recommending safe working practices for general waste collectors handling general waste that is classified by the National Environment Agency (NEA) as Type A and Type B (excluding Type B.1) waste.

Refer to **Annex A** for more information regarding the different categories of General Waste.

2. WASTE MANAGEMENT PROCESS

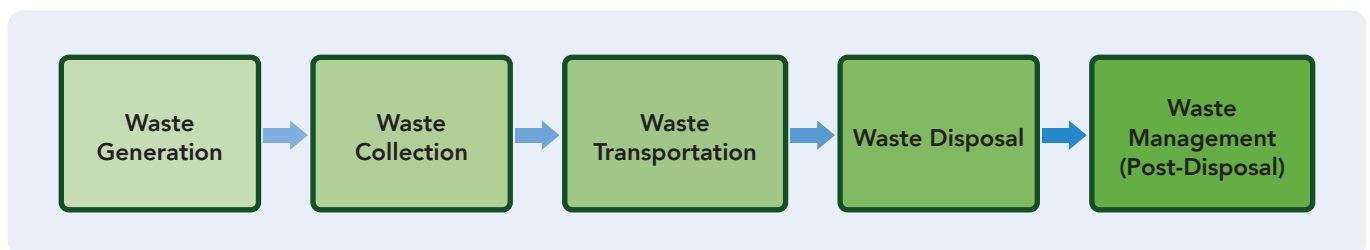


Figure 1: Waste management process

2.1 Waste Generation

Waste generation encompasses the discard of unwanted materials, whether these discarded materials are later recycled or incinerated. Workers from the cleaning and custodial service industry are usually responsible for gathering the waste generated at this stage and preparing them for subsequent waste collection.

Clients/general waste generators (e.g. commercial and trade premises, food establishments, industrial premises, households) should note the guidelines listed in the **Code of Practice for Licensed Waste Collectors**, in particular to segregate incinerable waste, non-incinerable waste and recyclables at source. The general waste collector may require the general waste generator to use separate containers for separate storage of the segregated waste.

For more information on cleaning and custodial services, see [WSH Guidelines on Cleaning and Custodial Services](#).

2.2 Waste Collection

Waste collection refers to the collection of all industrial, commercial and residential waste performed by licensed public and general waste collectors. These licences are issued by the NEA with the necessary training completed.

Refer to www.nea.gov.sg/our-services/waste-management/waste-collection-systems for more information.

During this stage, the waste collector shall only use vehicles and equipment approved under the licence. Drivers and attendants shall be fully briefed and trained according to the Singapore Workforce Skills Qualifications (WSQ) certification programme to ensure adherence to the requirements of the Environmental Public Health Act (EPHA).

Waste should be loaded onto vehicles within the bin centres wherever possible.

2.3 Waste Transportation

After waste collection, waste is transported to their respective disposal facilities. Different vehicles and equipment are used to transport Type A and Type B waste, such as:

- Open-top containers and hook-lift trucks, lorries with crane, pick-ups or lorries with tipper are used to transport Type A waste.
- Hook-lift trucks with roll-on/off compactors and refuse compaction vehicles are used to transport Type B waste.

Waste conveyed in open lorries or open-top containers must be properly covered to prevent spills or falling debris.

2.4 Waste Disposal

At the disposal centre, further segregation and processing may be needed for recyclables. Eventually, non-recyclable waste will be sent for incineration or landfilling. General waste collectors shall ensure only incinerable waste is brought to the incineration plants. No explosives or non-incinerable waste shall be disposed of at the incineration plants.

2.5 Waste Management (Post-Disposal)

Upon completion of the waste movement, the waste collection crew shall return to the company depot to update and maintain proper daily records of the collection services rendered by them and refresh the waste collection vehicle and equipment for subsequent operations.

3. WORKPLACE SAFETY AND HEALTH ACT

The WSH Act is an essential part of the framework aiming to cultivate good safety habits in all individuals and to create a strong safety culture in all workplaces.

Since September 2011, the WSH Act was extended to cover all workplaces. A workplace is defined as any premises where a person carries out work or is to work, including the different work areas where various kinds of waste management related work activities will be carried out.

S/No.	Agency in Charge	Legislation	Brief Description (Non-Exhaustive)
1.	Ministry of Manpower	Workplace Safety and Health Act 2006	<ul style="list-style-type: none"> • States the WSH obligations of relevant stakeholders such as occupiers, principals, employers and employees. • Covers all workplaces unless exempted.
2.	Ministry of Manpower	Workplace Safety and Health (Risk Management) Regulations	<ul style="list-style-type: none"> • States the relevant stakeholders who are responsible for identifying safety and health hazards at workplaces and taking measures to eliminate or reduce the risks. • States that a risk assessment (RA) shall be conducted for all workplaces. • States the requirements for conducting RA. For more details on RA, please refer to Section 5 below.

S/No.	Agency in Charge	Legislation	Brief Description (Non-Exhaustive)
3.	Ministry of Manpower	Workplace Safety and Health (General Provisions) Regulations	<ul style="list-style-type: none"> States the provisions for protecting employees against hazardous substances (including flammable materials).
4.	Ministry of Manpower	Workplace Safety and Health (Incident Reporting) Regulations	<ul style="list-style-type: none"> Defines what a work-related accident is. States when to report a work-related accident and who should be reporting.

Table 1: List of relevant WSH legislation

Table 1 briefly summarises the WSH Act and some of its relevant subsidiary legislation (non-exhaustive) that may be relevant to General Waste Collectors.

Please refer to **Annex A** for some possible penalties for failure to comply with the WSH Act.

Find out more about the WSH Act and its subsidiary legislation at: <https://www.mom.gov.sg/workplace-safety-and-health/workplace-safety-and-health-act>

3.1 Other Relevant Legislation

When managing and maintaining the common property or limited common property, other than the WSH Act and relevant subsidiary legislation, there are many other legislations that must be complied with as well. **Table 2** lists out some of the other legislations (non-exhaustive) which may be relevant to General Waste Collectors.

S/No.	Agency in Charge	Legislation
1.	National Environment Agency	Environmental Public Health (General Waste Collection) Regulations
2.	National Environment Agency	Code of Practice for General Waste Collectors
3.	National Environment Agency	Environmental Public Health Act 1987

Table 2: Legislation relevant to General Waste Collectors

Find out more about the other relevant legislation not listed in **Table 2** here: <https://sso.agc.gov.sg/>

Under the EPHA all waste collectors must have a valid licence.

3.2 Roles and Responsibilities Under the Workplace Safety and Health Act

The WSH Act is the key legal instrument supporting the WSH framework in Singapore to safeguard the safety, health and welfare of persons in all workplaces. The Act aims to cultivate good safety and health habits and practices in all corporations and working individuals, extending from the top management down to the last worker. In order to achieve safer and healthier outcomes, the WSH Act outlines the responsibilities of various stakeholders.

Some of the stakeholders defined in the WSH Act are:

- Occupier
- Principal
- Employer
- Persons at work (Employee)

3.2.1 Occupier

An occupier of a workplace is the party that has charge, management or control of the premises, whether on their own account or as an agent of another person, regardless of whether they are the owner of those premises.

The occupier must ensure that the following are safe for everyone in the premises, even if the person is not an employee (e.g. contractors and members of the public):

- Workplace;
- All pathways to and from the workplace; and
- Machinery, equipment, plants, articles and substances (including waste materials) kept on the workplace.

An occupier may also be responsible for the common property used by workers. Common property can include the following (non-exhaustive):

- Electric generators and motors;
- Hoists and lifts, lifting gears, lifting appliances and lifting machines;
- Entrances and exits; and
- Machinery and plants.

3.2.2 Principal

A principal is any person or organisation who engages another person or organisation (i.e. the contractor) to supply labour or perform work under a contract for service.

The principal must ensure that the contractor he/she engages:

- Has the necessary expertise to perform the work they are engaged for; and
- Has made sure that any machinery, equipment, plant, article or process that is used at work is safe.

In addition, if the case is such where the principal directs the contractor or the employees of the contractor on how the work is to be carried out, the principal's duties will include duties similar to that of an employer (see **Section 3.2.3**) insofar as ensuring the safety and health of the contractor or the employees of the contractor.

3.2.3 Employer

An employer refers to a person who, in the course of the person's trade, business, profession or undertaking, employs any person to do any work under a contract of service.

The employer must protect the safety and health of his/her employees or workers working under his/her direction, as well as persons who may be affected by the employer's work at the workplace.

Amongst other things, the employer must:

- Conduct RA to identify hazards and implement effective risk control measures;
- Make sure the work environment is safe;
- Make sure adequate safety measures are taken for any machinery, equipment, plant, article or process used at the workplace;
- Develop and implement systems for dealing with emergencies;
- Ensure workers are provided with sufficient instruction, training and supervision so that they can work safely; and
- Provide appropriate personal protective equipment (PPE) for workers and ensure their proper use.

3.2.4 Employee

An employee refers to any person employed by an employer to do any work under a contract of service.

The employee must:

- Follow the workplace safety and health system, safe work procedures or safety rules implemented at the workplace;
- Not engage in any unsafe or negligent act that may endanger himself/herself or others working around him/her; and
- Use PPE provided to him/her to ensure his/her safety while working. He/she must not tamper with or misuse the equipment.

4. RISK MANAGEMENT

Risk management (RM) consist of preparation, RA, risk control implementation, record-keeping, review and continual communication (see **Figure 2**). RA is a key component of RM. If the control measures identified in the RA are implemented appropriately, it will reduce risks at work.

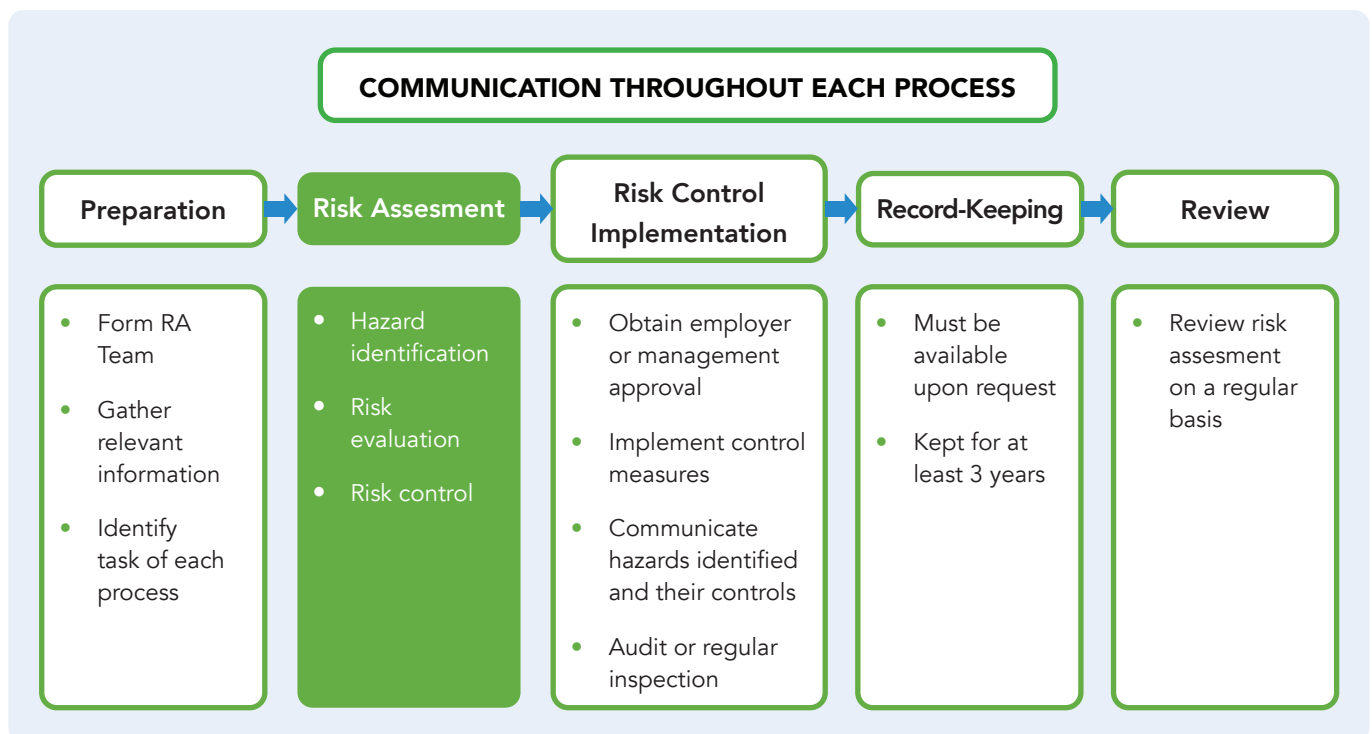


Figure 2: The risk management process

4.1 Risk Assessment

Under the WSH (Risk Management) Regulations, every workplace must conduct RA for all work activities. RA shall be carried out and risk control measures are to be implemented before commencement of any work activity. In every workplace, the occupier, the employer, self-employed person and principal shall conduct a risk assessment in relation to the safety and health risks posed to any person who may be affected by his/her undertaking in the workplace.

As far as possible, RA should be conducted in consultation with relevant stakeholders (e.g. the premise owners and managing agents). This will ensure that the RA holistically takes into consideration factors such as personnel involved, all aspects of the work activity and environmental conditions.

RA can be conducted in three simple steps as shown in **Figure 3** on the next page.

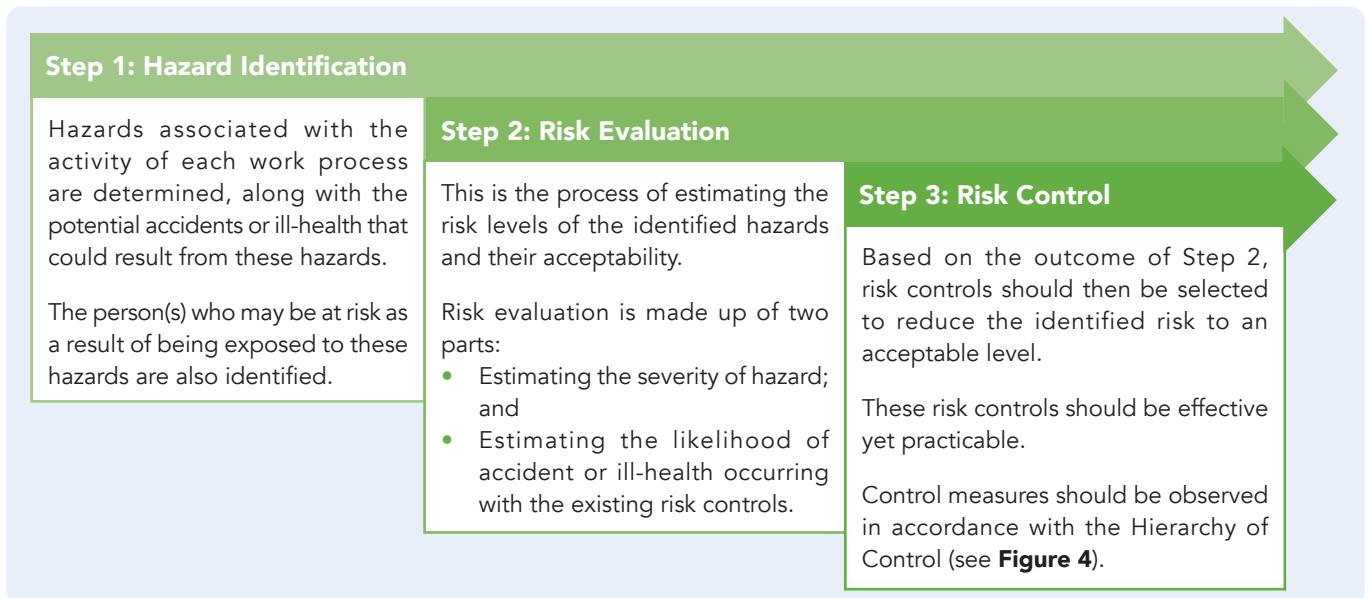


Figure 3: The RA process

An inventory of all work activities should be developed for RA. Non-exhaustive examples of work activities relevant to waste collectors may include:

- Operation of compactors/dust drums;
- Hauling of compactors and open-top containers;
- Collection of waste from various collection points;
- Collection of waste using different vehicles and equipment;
- Transportation of waste;
- Disposal of waste; and
- Maintenance of waste collection facilities, vehicles, equipment and tools.

Under the WSH (Risk Management) Regulations, RA is required for every work activity and needs to be regularly reviewed at least once every three years thereafter. Records of RA must be kept for a period of not less than three years and be made available upon request by inspectors from the Ministry of Manpower. Failure to comply could result in fines and subsequent offences may entail a jail term.

Please refer to **Annex B** for a sample RA form.

Hierarchy of Control

Control measures in the Hierarchy of Control (refer to **Figure 4**) are ranked in order of effectiveness. As far as possible, priority should be given to upstream risk control measures. It may be necessary to use more than one risk control measure to reduce risks to the lowest possible level when no single measure is sufficient on its own. For example, engineering controls, such as using safer equipment, can be implemented together with administrative controls, such as training and safe work procedures (SWP), to reduce the workplace risk.

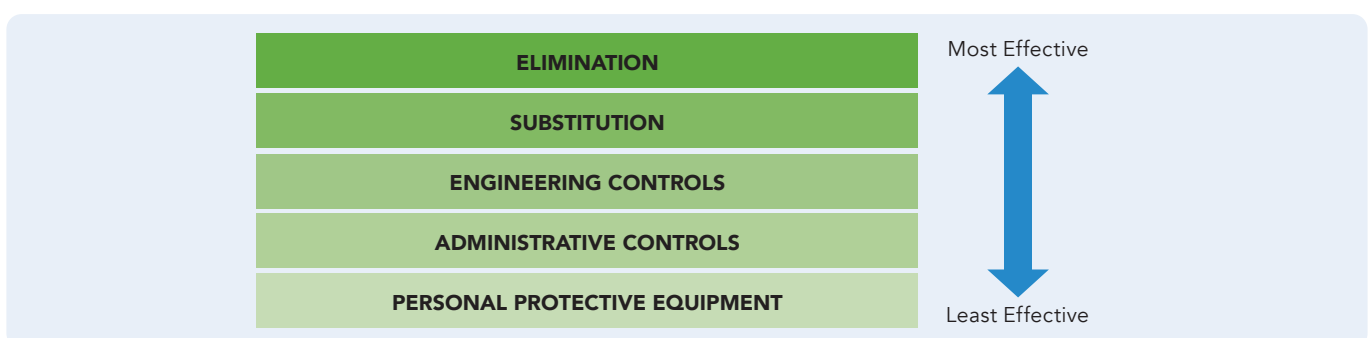


Figure 4: The Hierarchy of Control

Elimination

Elimination of risk refers to the removal of a worker's exposure to the hazards, effectively making all identified risks of possible accidents and ill-health impossible. As elimination is the most effective method of risk control, it should be considered first. Also, risks that have been eliminated should not appear in subsequent RA forms. For example, ergonomic hazards arising from the manual handling of bulk bins at waste compactors and rear-end loaders (REL) can be eliminated through the use of automated bin lifters.

Substitution

This involves replacing a hazard with one that presents a lower risk. For example, if there is a need for a cleaner to use an A-frame ladder to access higher ground, the ladder can be replaced with a mobile step platform, which is a more stable option. Although using a mobile step platform does not remove the hazard of falling from height, the risk of possible accident is significantly reduced.

Engineering Controls

Engineering controls are physical means that limit hazards. These include structural changes to the work environment or work processes. Installing guards on a waste compactor to prevent objects or persons from getting caught in between moving parts is an example of engineering controls.

Administrative Controls

These controls reduce or eliminate exposure to hazards through adherence to procedures or instructions. Documentation should emphasise all steps and controls needed for work activities to be carried out safely. Examples of administrative controls are the establishment of SWPs and the installation of signages.

Personal Protective Equipment

Proper use of PPE can help keep workers safe at work. However, PPE should only be used in addition to other control measures (e.g. engineering control measures) or when all other measures are not practicable. For PPE to be effective, it must be fitted correctly and always worn whenever the user is exposed to the hazards. PPE should also be cleaned and maintained regularly. When not in use, it should be stored in an appropriate place. Examples of PPE that may be applicable to waste management workers are safety shoes, helmets and reflective vests.

For more information regarding RM and RA, see **Code of Practice on Workplace Safety and Health (WSH) Risk Management**.

5. TYPES OF HAZARDS (AND CORRESPONDING CONTROL MEASURES)

A list of common work hazards in the daily work routine of a waste collection crew/driver are shown in **Table 3** below. The various process steps take reference from **Section 2**.

	Waste Collection	Waste Transportation	Waste Disposal
Mechanical Hazards	✓		✓
Electrical Hazards	✓		✓
Falls from Height	✓		✓

	Waste Collection	Waste Transportation	Waste Disposal
Slips, Trips and Falls	✓	✓	✓
Exposure to Loud Noises	✓		✓
Biological Hazards	✓		✓
Fire Hazards	✓		✓
Struck by Falling Objects	✓	✓	✓
Vehicular Hazards	✓	✓	✓
Poor Ergonomics	✓	✓	✓
Exposure to Harsh Weather	✓	✓	✓
Stress/Fatigue	✓	✓	✓

Table 3: Summary of common hazards faced by waste collectors

5.1 Mechanical

Mechanical hazards occur due to moving objects (typically a person and a work equipment) coming into contact with one another. Some forms of mechanical hazards include (but are not limited to):

- Crushing
- Shearing
- Cutting
- Entanglement
- Trapping
- Impact
- Abrasion

As the waste management industry is increasingly automated, mechanical hazards arising from the adoption of machinery (such as compactors) should be addressed with corresponding risk control measures.

Some good practices to consider:

- Moving parts of machines should not be exposed. If there are exposed moving parts, they should be guarded and/or shielded to prevent objects from getting caught. See **Figure 5** for an example of guarding.
- Keep loose objects such as ties, gloves or other loose clothing away from moving parts as they can get caught, which may lead to injury.
- Machines should be installed with an alarm interlock and automatic emergency stop system.
- Waste collection crew should maintain a safe distance from machinery in operation.
- Visible signages should be put up to warn operators of any moving parts (see **Figure 6**).
- If machinery is not working as intended, the waste collection crew should inform their supervisors and not attempt to bypass the system.
- Waste collection crew should not attempt to retrieve any item that has been discarded into the waste compactor. Instead, seek assistance and obtain approval from the machine owner.



Figure 5: Guarding of the moving parts of a refuse handling equipment



Figure 6: Visible signage that warns of moving parts

For more information, refer to the **WSH Guidelines on Safe Use of Machinery**.

5.2 Electrical

Electrical hazards involve live currents that, even in small amounts, can cause serious injuries or even death. A large build-up of electrical charge can result in arcing, where the current flows through a typically non-conductive medium such as air. This can result in the same extent of injury as a regular electric shock.

Some good practices to consider:

- Before operating any electrical equipment, waste collection crew should perform a visual inspection to ensure that the machine is safe to use.
- Contact the manufacturer, maintenance crew or equipment owner when any electrical fault occurs. Never touch any exposed or faulty electrical components, nor attempt to fix them yourself. Do not attempt to bypass safeguards to get electrical equipment to function.
- Ensure hands are dry or insulated with rubber gloves (see **Figure 7**) before operating any electrical switches or equipment. Footwear with rubber soles should also be worn.
- Electrical equipment should only be accessed by those who are competent and authorised to do so.



Figure 7: Wear rubber gloves when operating electrical switches or equipment

For more information on electrical vehicle charging standards, refer to the **Charging Standards and Installation of EV Chargers** advisory published by the Land Transport Authority.

5.3 Work at Height

Falls from height are the leading cause of workplace-related injuries. Hence, working at heights should always be avoided whenever possible. If working at height is unavoidable, employers must establish and implement a fall prevention plan before work can commence.

Some good practices to consider:

- Do not climb onto open-top containers;
- Install automatic covers on hook-lift trucks;
- When using manual covers (e.g. canvas sheet), use a pole/stick to adjust and guide the cover over the open-top container;
- Provide safe means of access and egress (e.g. steps and handholds) for new open-top containers;
- If there is a need to access the open-top container, a suitable work platform should be provided for workers and crew members to work from safely; and
- Refrain from overfilling the open-top container.

For more information, refer to the [Code of Practice for Working Safely at Heights](#).

5.4 Slips, Trips and Falls

Many workplace injuries in the waste management industry happen because of workers tripping over physical obstructions or slipping due to bad ground conditions. Other conditions such as insufficient lighting, poor housekeeping, wet and slippery floors, a lack of guardrails or handrails on platforms or staircases, and/or carelessness can contribute to slips, trips and falls.

Some good practices to consider:

- Install handholds on waste collection vehicles to ensure crew can safely maintain three-point contact when boarding and disembarking (see **Figure 8**);
- Place anti-slip footholds on waste collection vehicles (see **Figure 9**);
- Provide and ensure the usage of appropriate PPE (e.g. anti-slip footwear); and
- Report damaged flooring (e.g. broken tiles, holes) immediately.



Figure 8: Handholds allow for three-point contact when boarding and disembarking



Figure 9: Proper footholds to access the rear of the waste collection vehicle

5.5 Exposure to Loud Noises

Waste collectors are constantly exposed to noise from the equipment they use during work, such as the spiral dust screw. The effects of hearing loss are gradual and thus are often overlooked. Collectors' exposure to noise should be monitored, and appropriate protection should be worn accordingly.

For noise levels above 85 decibels (dB), ear plugs (see **Figure 10**) should be worn.

For noise levels above 100 dB, ear plugs and earmuffs should be worn.



Figure 10: Waste collection crew member wearing earplugs

For more information, refer to the **WSH Guidelines for Hearing Conservation Programme**.

5.6 Biological

When handling waste materials, there may be improperly disposed biohazardous objects such as dirty syringes or medical equipment. A small cut from a contaminated sharp could cause infections and life-threatening diseases. Care and caution should always be exercised to minimise the risk of exposure to such potential dangers.

Some good practices to consider:

- Avoid handling waste manually where possible. Employ automated waste collection systems to distance the worker from potential biological hazards.
- Anti-puncture PPE should always be worn when handling waste manually.
- Practice good personal hygiene and sanitary practices.

5.7 Fire and Explosions

General waste may include common aerosols such as hairspray, disinfectant and insecticide canisters. Residual gas in these waste items can pose a fire hazard to the waste collection crew. Crew should always be vigilant and avoid placing themselves at risk when handling potentially flammable waste.

Some good practices to consider:

- Avoid exposing waste to naked flames or sparks;
- Equip waste collection vehicles with portable fire extinguishers and train the crew in their use; and
- Do not smoke when handling refuse.

5.8 Struck by Falling Objects

With large volumes of refuse, it is possible that waste may overflow from the open-top container, leading to serious injuries when heavy and/or sharp objects fall out of the vehicle and onto unsuspecting crew or members of public.

Some good practices to consider:

- Refrain from overfilling the open-top container;
- Maintain a safe distance from the compactor when the discharge cycle is in operation and also from the container when working around the vehicle's perimeter; and
- Waste collection crew should wear safety helmet if there is a foreseeable risk of being struck by falling objects.

5.9 Vehicular

As most of the waste collection crew's work requires them to travel around on waste collection trucks, vehicular hazards are a real risk that they face on a regular basis, especially as these trucks are considered heavy vehicles. It is important that the waste collection crew and driver pay utmost attention to road and vehicular safety.

Reversing vehicles into the waste collection point can be a hazard to pedestrians and crew alike. Consider adopting these practices for reversing vehicles:

- Install reverse alarms to warn anyone in the vehicle's reversing path;
- Avoid standing on the rear stepper when the vehicle is reversing; and
- Have a vehicle commander to guide the driver when the vehicle is reversing.

For stationary vehicles, control measures should address the risk of the vehicle moving unwantedly. Some key control measures include:

- Engaging the parking brake after positioning the truck;
- Removing the ignition key to prevent accidental/unauthorised access; and
- Chocking the wheels (see **Figure 11**) after alighting from the truck.



Figure 11: Wheels of stationary vehicles should be chocked

On the road, drivers should practice safe driving to prevent traffic accidents. Some safe driving techniques to employ are:

- Practice defensive driving by anticipating dangerous situations that occur outside of the driver's control;
- Do not drive when feeling unwell or fatigued; and
- Ensure that the driver and passengers are always wearing seatbelts when the vehicle is moving.

Waste collection trucks are elevated from the ground. As such, care should be taken when mounting or dismounting the vehicle. Some good practices to consider:

- Always maintain three points of contact; and
- Use the truck's steps and handholds to mount and dismount.

For more information, refer to the [WSH Guidelines for Workplace Traffic Safety Management](#).

5.10 Ergonomics

Most of the waste management process has been automated for improved efficiency, convenience, and safety. However, there may still be the occasional need for manual handling during collection or disposal (i.e. in the event of a breakdown or equipment failure). While a proper maintenance regime can reduce the likelihood of such situation occurring, the waste collection crew should maintain good posture whenever handling waste manually.

For more information, refer to the [WSH Guidelines on Improving Ergonomics in the Workplace](#).

5.11 Exposure to Inclement Weather

As ambient temperatures are increasing gradually due to global warming and the urban heat island effect, heat stress is a growing concern for any outdoor work. Left unaddressed, heat stress can accumulate, leading to heat stroke.

Some effective measures to consider for mitigating the effects of heat stress include (but are not limited to):

- Waste collection crew should be certified fit to work and acclimatised to Singapore's weather before beginning work.
- Ensure adequate water intake and keep hydrated throughout the day (see **Figure 12**).
- Clothing should be loose-fitting, light-coloured and made of breathable material to ensure it does not retain heat excessively.



Figure 12: Adequate water intake can reduce the risk of heat injury

For more information, refer to the [WSH Guidelines for Managing Heat Stress at the Workplace](#).

5.12 Stress and Fatigue

Workplace stressors can come from different sources and can put a strain on one's mental well-being. If managed poorly, these stressors can unknowingly erode employee motivation, productivity and in extreme situations, harm mental health.

Extra attention should be placed on protecting workers' mental health by helping them to cope with workplace stress and fatigue. Companies can implement mental well-being initiatives through the following framework:

1. **Check:** Assess regularly and identify needs
2. **Aim:** Create a mental well-being roadmap to set goals and track progress
3. **Rally:** Senior management to support and be involved in mental well-being initiatives
4. **Act:** Choose suitable initiatives to implement
5. **Tell:** Create a communication plan for awareness and participation
6. **Refine:** Review the initiatives regularly

For more information, refer to the [Playbook on Workplace Mental Well-being](#).

6. ACKNOWLEDGMENTS

WMRAS would like to thank the WSH Guidelines for General Waste Management development work group members for their valuable contribution towards this guide.

S/No.	Name	Organisation
1.	Melissa Tan	Waste Management & Recycling Association of Singapore
2.	Milton Tan	Waste Management & Recycling Association of Singapore
3.	Jonah Joshua Simon	Singapore Business Federation
4.	Long Wei Loon Alan	National Environment Agency
5.	Tan Eng Sang	National Environment Agency
6.	Hansen Tan	Singapore International Facility Management Association
7.	Teo Poh Siang	Association of Strata Managers
8.	Tang Mei Peng	Association of Property and Facility Managers
9.	Low Ah Poon	Sembawang Town Council
10.	Roy Yap	Housing & Development Board
11.	Sai Murugan Pandit	Housing & Development Board
12.	Derrick Ong	JTC Corporation
13.	Chan Yew Tow	Ministry of Manpower
14.	Steven Goh	Building Construction and Timber Industries Employees' Union
15.	Danny Tan	Building Construction and Timber Industries Employees' Union
16.	Dennis Choo	Workplace Safety and Health Council
17.	Royston Lim	Workplace Safety and Health Council
18.	Chevy Ang	Workplace Safety and Health Council

7. REFERENCES

Regulations

- Workplace Safety and Health Act 2006 and subsidiary legislations
- Environmental Public Health Act 1987 and subsidiary legislations

Guidance Materials

- WSH Council – Code of Practice on Workplace Safety and Health (WSH) Risk Management
- Lands Transport Authority – Advisory on Charging Standards and Installation of EV Chargers
- NEA Guidelines for General Waste Collectors
- Code of Practice for Licensed General Waste Collectors

Other Useful WSH Guidance Material for General Waste Management

- WSH Guidelines on Safe Use of Machinery
- Code of Practice for Working Safely at Heights
- WSH Guidelines for Hearing Conservation Programme
- WSH Guidelines for Workplace Traffic Safety Management
- WSH Guidelines on Improving Ergonomics in the Workplace
- WSH Guidelines for Managing Heat Stress at the Workplace
- Playbook on Workplace Mental Well-being

ANNEX A – RELEVANT TERMS ADAPTED FROM CODE OF PRACTICE FOR LICENSED GENERAL WASTE COLLECTORS

With reference to the NEA's Code of Practice for Licensed General Waste Collectors, general waste is classified into the following categories:

Type A Waste

1. Waste such as unwanted furniture, electrical appliances, construction and renovation debris, and cut tree trunks and branches;
2. Bulky waste;
3. Non-putrefiable waste;
4. Recyclable waste (excluding food waste); and
5. Digested sludge that has been dewatered from water reclamation plants.

Type B Waste

1. Domestic refuse, food waste (excluding used cooking oil) and market waste; and
2. Waste with a high organic content and which is putrefiable.

Type B.1 Waste (excluded from this guidelines)

1. Used Cooking Oil.

Type C Waste (excluded from this guidelines)

1. Sludge and other waste from grease interceptors;
2. Sewage, sludge and other waste from water-seal latrines, sewage treatment plants (other than water reclamation plants), septic tanks or other types of sewerage systems; and
3. Waste from sanitary conveniences not part of a sewerage system, including waste from sanitary conveniences which are mobile or on ships or aircraft.

List of Recyclable Waste

Recyclable waste refers to any general waste that is capable of being recycled and includes:

- Any recyclable; and
- Any refuse for waste specified in the Fourth Schedule of the Environmental Public Health (General Waste Collection) Regulations (replicated below for ease of reference).

S/No.	Recyclable Waste	Examples
1.	Concrete and renovation debris	Concrete, hardcore, earth, stone, sand, slag, brick, masonry and tile
2.	Electronic waste	<ol style="list-style-type: none"> a. Large household appliance, including washing machine, refrigerator and air-conditioning unit b. Electrical or electronic appliance, including computer, printer, printer cartridge, mobile phone and tablet computer c. Parts and components of electrical or electronic appliance
3.	Food waste	Unconsumed bread and waste from food processing, including spent grains, spent yeast and soy pulp
4.	Horticultural waste	Garden or landscaping waste, but excluding soil

S/No.	Recyclable Waste	Examples
5.	Large metal waste	Large drum or container, vehicular part, metal chair, wire rope and spring mattress
6.	Rubber	Tyre
7.	Slag	Copper slag and steel slag
8.	Textile products	Clothing and fabric
9.	Used cooking oil	
10.	Wood products	Wooden furniture and pallet

List of Non-Incinerable Waste

Non-incinerable waste refers to:

- Any recyclable waste;
- Any waste specified in the Third Schedule of the Environmental Public Health (General Waste Collection) Regulations (replicated below for ease of reference);
- Any general waste that is not incinerable waste.

S/No.	Non-Incinerable Waste
1.	Carbon fibres
2.	Fibreglass
3.	Fire retardants
4.	Insulation materials, including rock wool, asbestos, calcium silicate boards and ceramic fibres
5.	Light materials, including feathers, dust and powders
6.	Polychlorinated compounds, including Polychlorinated Biphenyl (PCB)
7.	Polyvinyl Chloride (PVC) waste, including PVC pipes, plastic film, upholstery, containers and packaging materials
8.	Uncontaminated sludge, ash or slag

Note: Please refer to the **Environmental Public Health (General Waste Collection) Regulations** for any changes/updates to the listing.

List of Waste Not to Be Disposed Without Consent of the Director-General

- The waste listed below, with the exception of smouldering waste, should be sent to a licensed disposal facility for treatment.

S/No.	Waste Not to Be Disposed Through Incineration or Landfilling
1.	Chemical waste
2.	Chlorinated fungicide, chlorinated herbicide and chlorinated insecticide
3.	Explosive or highly flammable waste, including ammunition, dry and wet carbide waste, fireworks, self-igniting waste and excessive quantities films
4.	Human and animal excrement, sludge from neutralisation pits, foul smelling waste and animal carcasses
5.	Liquid and volatile waste, oil sludge and paints
6.	Poisonous and radioactive waste
7.	Smouldering waste

Note: Please refer to the **Environmental Public Health (General Waste Collection) Regulations** for any changes/updates to the listing.

ANNEX B – PENALTIES UNDER THE WORKPLACE SAFETY AND HEALTH ACT

Tables 4 and 5 detail the general penalties that may be imposed on an individual person or corporate body for failing to comply with the WSH Act. Please note that certain offences may have their own prescribed punishment as well.

Offender Type	General Penalty
Individual Person	<ul style="list-style-type: none"> • Maximum \$200,000 fine, or maximum imprisonment of 2 years, or both • Additional \$2,000 fine for each day that the offence is not rectified
Corporate Body	<ul style="list-style-type: none"> • Maximum \$500,000 fine • Additional \$5,000 fine for each day that the offence is not rectified

Table 4: General penalties of the WSH Act (Section 50)

When a person or corporation has a record of previous offences that led to fatalities, the penalties will be more severe for repeating the same offence.

Offender Type	Penalties for Repeat Offenders that Resulted in Fatalities
Individual Person	<ul style="list-style-type: none"> • Maximum \$400,000 fine, or imprisonment, or both • Additional \$2,000 fine for each day that the offence is not rectified
Corporate Body	<ul style="list-style-type: none"> • Maximum \$1,000,000 fine • Additional \$5,000 fine for each day that the offence is not rectified

Table 5: Penalties for repeat offenders of the WSH Act (Section 51)

ANNEX C – SAMPLE RISK ASSESSMENT FORM

Risk Assessment Form

Department, Activity, or Trade Assessed:		RA Leader:		Risk Evaluation (THINK)				Risk Control (DO)		RA Reference Number				
Process/ Design Consideration:		RA Member 1:		Existing Risk Controls	S	L	RPN	Additional Controls (First Consideration: How to design out this hazard)	S	L	RPN	Implementation Person	Due Date	Remarks
Process/ Activity Location:		RA Member 2:		Potential Injury/ Ill-health										
Original RA Date:		RA Member 3:		Hazard										
This RA Review Date:		RA Member 4:		Work Activity/ Sub-activity										
Next RA Review Date:		RA Member 5:												
Hazard Identification (LOOK)				Risk Evaluation (THINK)			Risk Control (DO)							
S/No	Work Activity/ Sub-activity	Hazard	Potential Injury/ Ill-health	Existing Risk Controls	S	L	RPN	Additional Controls (First Consideration: How to design out this hazard)	S	L	RPN	Implementation Person	Due Date	Remarks
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														

S=Severity; L = Likelihood; RPN = Risk Prioritisation Number; RA = Risk Assessment

Note:

Page ___ of ___ page(s)



WMRAS
Waste Management & Recycling
Association of Singapore

secretariat@wmras.org.sg
www.wmras.org.sg

28 Kranji Loop, #06-09, Kranji Green
Singapore 739571