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A RISK ASSESSMENT APPROACH



Environmental Services Association
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INTRODUCTION

This guidance provides advice to companies working in the Waste Industry on their approach to carrying out risk assessments and builds on the approach of the **Health and Safety Executive (HSE) guidance**. The aim is to help embed a simple and effective approach to help site management to identify risk, determine appropriate control measures, get the right processes in place and communicate them to the people doing the job.

Key features:

- Focus on the basics, covering all aspects of health, safety and environmental risk
- Align the risk assessment approach to a site and activity (rather than being topic specific such as manual handling or working at height)
- Develop the tools and resources for applying process safety principles to different types of waste management facilities

This guidance includes some examples of both site and activity risk assessments, which each company can use or adapt for their own organisation.



What is a risk assessment and why are they important?

A risk assessment is where a group of people look at how a job is done to identify what could go wrong and what can be done to stop that from happening. It is important the risk assessment process involves people who know how the job is done and what problems can come up. Only that way can you be sure everything is properly covered.

By taking a step back and looking at what can go wrong, it is easier to figure out how to make the job safer for everyone involved. This not only makes good sense, it's also what is needed to follow health and safety law. If your company has five or more employees, your risk assessment and control measures must be written down.

A few definitions from the risk assessment world

Hazard - Something with the potential to cause harm to people, the environment or property, e.g. vehicle movements.

Risk - How the hazard may cause harm to someone, the environment or property, e.g. for the hazard of vehicle movement, the risks include being hit by a moving vehicle

For Scored Risk Assessments, **level of risk** can be identified by considering:

Likelihood	On balance, how likely is it that the hazard will happen?
Severity	If someone was to be hurt, how bad would the injury be?

Control Measure - The steps taken to reduce the risk of some being hurt, or environment/property being harmed e.g. for risk of being hit by a moving vehicle, controls include:

- Separate pedestrian walkways with designated crossing points
- Site speed limit
- Speed bumps
- One way system

Process Safety is the framework in place for managing the integrity of operational systems and processes in order to prevent large scale incidents or process disruption e.g. major plant failure.

TYPES OF RISK ASSESSMENT

SITE

Identifies risks associated with the typical site environment, configuration, or process such as fire, traffic movements and material separation/management.

ACTIVITY

Identifies risks associated with the tasks undertaken by an individual in a role such as sorting and loading kerbside recycling or sorting material at a MRF.

POINT OF WORK

Highlights any changes to the work area or environment at the time of completing the work which could introduce different risks.



Who should be involved in creating a risk assessment?

A risk assessment should always involve people who do the job everyday to make sure the controls are effective and realistic. This has the added benefit of encouraging ownership and understanding of the risks and how they are controlled. There should also be someone who is trained in completing risk assessments, a Supervisor, and a subject matter expert such as an engineer who has the know-how to identify hazards, risks and associated control measures

Identifying Hazards

To identify hazards, it's important to look beyond the obvious. There is no better substitute for good quality observation and speaking with those doing the job to find all of the risks. You can also use industry best practice and manufacturer guidance to build an understanding and take the advice of subject matter experts for an objective assessment. Remember, some team members have particular requirements, like new or inexperienced workers, migrant workers, young people, expectant mothers, and people with disabilities. These workers may be at particular risk and extra thought will be needed for some hazards to take their needs into account.



ASSESSING THE RISK

What's in a score?

There are different ways you can go about doing a risk assessment. Using a scoring mechanism is one of these. They can be used to rate the scale of the risk before and after control measures have been put in place. Each company should carefully consider the use of scoring and whether removing it can bring renewed focus back to controlling risks. The use of a scored risk assessment may still bring value where activities are either new, undertaken as a one-off task, or when considerable variables are likely.

For existing, simple and more repetitive tasks scoring may not be needed. When not using a score, focus should be on considering what harm a hazard can cause.

E.g. Hazard = Adverse Weather, risks include

- slip on ice/snow, exposure to cold (in winter)
- Dehydration/sunburn (in summer)
- Hit by objects (doors, bins lids) blown by wind

Examples of both scored and non-scored risk assessments are included in the appendix of this guidance note.

CONTROL MEASURES

When considering control measures, there are a series of questions to ask to make sure you capture everything:

Can you remove the hazard altogether?

If you can remove the hazard completely then you should (e.g. redesign the task / process / facility)

If you can't remove the hazard then choose a less risky option (e.g. use a less hazardous chemical; move sample points to ground level from height etc.)

Can the risk be controlled?

Prevent access to the hazard (e.g. guarding / Local Exhaust Ventilation)

Organise site / work to reduce exposure (e.g. work instruction, job rotation, signage)

Use Personal Protective Equipment as a LAST RESORT

Once all alternative measures have been tried and are found ineffective on their own, issue PPE (e.g. clothing, footwear, goggles, RPE) and provide welfare facilities (e.g. first aid / washing for contamination removal)

What should your Risk Assessment look like?

Risk assessments can be recorded in many different forms, although all formats will identify the hazards, risks and control measures. This guidance shows a clear and simple way of recording risk assessments, including some examples for typical activities that take place in the waste industry. Companies may use an electronic or paper based system depending on which is more suitable for their teams.

Approving the assessment

All risk assessments should be reviewed and approved by someone senior with knowledge of the subject matter (determined by each organisation), which could be a site manager or Supervisor, who was not involved in the process of writing the assessment. This gives the approval process some independence, and by doing so the approver is acknowledging that they agree with the assessment, the hazards outlined and more importantly they support the control measures outlined in the assessment.

Communicating the findings of assessment

A risk assessment is only effective if people doing the job know the risks and how they are controlled, so how it is communicated is critical. Asking people to read and sign to show understanding is not effective and does not provide evidence of understanding.

Effective ways of communicating are to integrate the controls into a standard operating procedure or work instruction. Role based training is the ideal way to make sure your people know how to do the task and what the control measures are which keep them safe. The style, language and imagery used should be appropriate to the end user to maximise understanding. All training should include taking operatives to the work site, talking them through the tasks and demonstrating what you mean. Make sure you ask questions or complete a test to confirm understanding.

Ensuring controls are effectively implemented

When a risk assessment is complete and findings communicated, it does not mean the process is over. The control measures must be implemented and checked that they are effective in controlling the risk. There are a number of ways you can check this:

- Observe the process and discuss with the people doing the job
- Complete formal competency checks
- Undertake Site / Activity Inspections and Audits
- Encourage feedback from staff (make sure you let people know what action you have taken)
- Monitor Close Calls / Near miss reports

If any issues are identified, the risk assessment should be reviewed and updated.



SITE BASED RISK ASSESSMENTS

Site Risk Assessment

Now the principles of risk assessment are covered, we will address how these apply when considering site-based risks. Examples of typical risks are included below:

- Fire
- Traffic management
- Noise
- Dust
- Plant/process guarding

How are they used?

A site based risk assessment for each operation type is produced to allow standardisation of risks and control measures across different locations, examples include:

- MRF facilities
- HWRC operations
- Energy Recovery Facilities
- Landfill
- Transfer Station



Keeping your risk assessment up to date

Workplaces are constantly changing so it is vital that risk assessments are updated. Each company should decide how often and under what circumstances a risk assessment is reviewed.

Consider the following:

- Frequency of review - Annual / or more frequent for higher risk or newer activities.
- Following change of people, process or equipment
- Where an accident or near miss investigation has identified learning
- Where control measures are not effective or where a better control measure has been identified
- New technology - has anything new come on the market that could remove the hazard or work better at reducing the risk



WHAT IS THE PROCESS?

Site activities are mapped out to reflect the processes of handling/processing material, common risks are then identified for each activity, an example is shown in the blue tabs in the example below:

KEY

 Common Risk

 Step Specific Risk

SITE ACTIVITY	MATERIAL	INSPECTION	PROCESSING	MAINTENANCE	STOCK
Key site and process based risk factors	Site/Ground Conditions	Site/Ground Conditions	Site/Ground Conditions	Site/Ground Conditions	Site/Ground Conditions
	Traffic Movements	Traffic Movements	Traffic Movements	Traffic Movements	Traffic Movements
	Dust and bioaerosols	Dust and bioaerosols	Dust and bioaerosols	Dust and bioaerosols	Dust and bioaerosols
	Waste borne diseases	Waste borne diseases	Waste borne diseases	Waste borne diseases	Waste borne diseases
	Fire and explosion	Fire and explosion	Fire and explosion	Fire and explosion	Fire and explosion
	Falling objects	Falling objects	Falling objects	Falling objects	Falling objects
	Vehicle exhaust	Sharp items and cuts	Fixed plant operation	Fixed Plant Maintenance	Vehicle exhaust
	Visiting drivers	Manual handling	Machine guarding	Building Maintenance	Visiting drivers
			Repetitive activity	Energy Isolation	
				Lifting	



Three examples of process maps can be found as a supporting document on the ESA website. Each risk is then added to the risk assessment template with the site activities identified, potential risks and control measures relevant to each company. External and additional internal guidance may then be added to provide further direction to site managers. **Please note, the following table is for illustrative purposes. If this approach is accepted, additional content will be included.**

SITE ACTIVITY	Potential risk factor	Potential effect	Measures to adopt	Guidance
SITE CONDITIONS				
All	Uneven surfaces	Injury due to slips/falls	<ul style="list-style-type: none"> Dedicated walkways and roads with flat/even surfaces. Regular inspections, ground conditions maintained, defect reporting procedures Clear marking of routes and pathways 	INDG225
	Ice	Injury due to slips/falls	<ul style="list-style-type: none"> Provide rock salt (or equivalent) Provide a gritting machine/equipment on site. 	
	Spillage	Injury due to slips/falls	<ul style="list-style-type: none"> Create a dedicated storage area with spill protection Risk assess to determine if protection against vehicle movements is required Storage design is in accordance with relevant codes. Ensure all liquids are stored in/on bunds Provide spill response kits and regular checks of stocks 	
	Open edges	Injury due to falls	<ul style="list-style-type: none"> Collective protection (barriers/handrails) designed in accordance with relevant codes 	BS EN ISO 14122 parts 1-4 (for machinery access)
	Poor lighting	Injury due to slip, trip or fall	<ul style="list-style-type: none"> Design and install lighting within operational areas in accordance with CIBSE guidance Conduct regular inspections and maintenance Emergency lighting in accordance with relevant standards 	Society of Light and Lighting (SLL) Guidance - Various
TRAFFIC MOVEMENTS				
Delivery, inspection/sampling, stock control.	Vehicles speeding	Injury to persons, damage to property	<ul style="list-style-type: none"> Traffic management is part of the plant design. Carry out traffic management risk assessment and define measures to reduce risk of incident (one-way systems, speed limit, traffic calming etc.) 	WISH – WASTE09
	Poor layout	Injury to persons, damage to property	<ul style="list-style-type: none"> Traffic management is part of the plant design to include swept path analysis. Traffic management risk assessment to reduce risk of incident (one-way systems, speed limit, traffic calming etc.) 	
	Unclear instructions	Injury to persons, damage to property	<ul style="list-style-type: none"> Traffic management is part of the plant design. Install appropriate signs. Provide a driver's induction 	
FIRE AND EXPLOSION				
All	Release of flammable substances	Fire and/or explosion – Injury to persons, damage to property, hazardous release to atmosphere	<ul style="list-style-type: none"> Conduct a DSEAR risk assessment Identify and classify hazardous areas to ensure no ignition sources are introduced Storage is in accordance with relevant codes Implement permit to work system for work in hazardous areas 	BCGA CP44
	Hot works	Fire – Injury to persons, damage to property, hazardous release to atmosphere	<ul style="list-style-type: none"> Where possible, provide a designated area for hot work Implement a permit to work system for hot work outside of designated areas 	
	Ignition of combustible waste material	Fire – Injury to persons, damage to property, hazardous release to atmosphere	<ul style="list-style-type: none"> Conduct a site fire risk assessment Where applicable, develop and implement a fire prevention plan (FPP) Permit smoking only in designated areas 	WISH – WASTE28
	Hot loads	Fire – Injury to persons, damage to property, hazardous release to atmosphere	<ul style="list-style-type: none"> Create designated hot load area where possible Develop hot load procedure 	

ACTIVITY RISK ASSESSMENT

When applying the risk assessment approach to activity based risks, a similar approach is followed. To map out the steps, the activity is observed and discussed with those involved to understand the flow or order. The risks can then be clearly seen so that the final risk assessment provides clear information to those involved, including how the risks are controlled. This is detailed below:



	ARRIVING AT WORK	SITE BASED RISKS	TASK RISKS	AUTHORISATION	VEHICLES & EQUIPMENT	STOCK
Activity Hazards	Accessing site	Weather conditions	Needles / Sharps	Permit to Work	Pre-use & Start-up Checks	Paperwork
	Security	Ground conditions	Handling	Isolation Certificate(s)	Driving / Operating Vehicles	Debriefing
	Welfare	Walkways, Gantries, Stairs	Chemicals / Substances		Machinery / Processing	Reporting Events
	Workwear	Pests/Vermin	Bacteria		Tools	Leaving Site
	PPE	Workplace Transport	Noise / Dust		Normal & Emergency Situations	
			Cleaning			



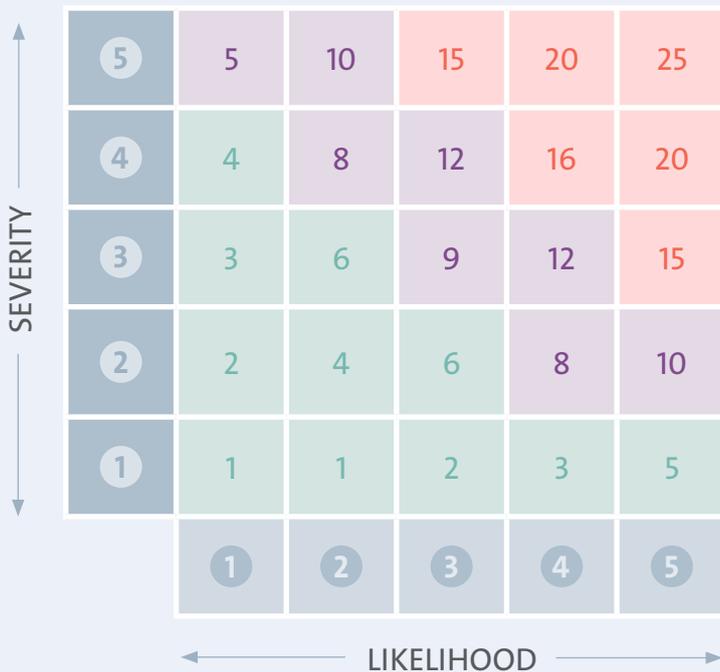


It is worth noting that in order to avoid complacency or a lack of appropriate detail, local specific controls will also be needed and are seen in the example below in the right hand column. Examples of local additional controls could include the frequency of monitoring or supervision or specific site rules.

Please note, the following table is for illustrative purposes (non-scored risk assessment)

Hazard	Risk	Minimum (mandatory) control measures	Site specific (local) control measures
Working Environment	Slip, trip or fall	<ul style="list-style-type: none"> Approved safety footwear Inspections of site: ground conditions, stairways, gratings, ramps Report defects (e.g. potholes) to Supervisor Use handrail on stairways Anti-slip coating on steps Walkways clear of debris 	
	Spillages	<ul style="list-style-type: none"> Spill response kits available and checked regularly Spill awareness training Spillages cleared immediately Ensure all liquids are stored in/on bunds 	
Adverse weather	Exposure to cold	<ul style="list-style-type: none"> Follow adverse weather plan Winter weather clothing Regular breaks with hot drinks 	
	Exposure to heat (dehydration / sunburn / heat exhaustion)	<ul style="list-style-type: none"> Follow adverse weather plan Sun protection cream / hat Job rotation Breaks in the shade Drink extra water 	
Health & Hygiene	Hearing loss (noise)	<ul style="list-style-type: none"> Noise assessment and actions in place Maintenance of machinery (planned preventative maintenance, vehicle/equipment inspection and servicing) Hearing protection areas identified and PPE worn where identified 	
	Infection from waste, vermin etc.	<ul style="list-style-type: none"> Hygiene systems in place and checked Maintain good hygiene (wash hands before eating, drinking, smoking) Wash hands regularly First aid/cover cuts and abrasions 	

RISK RATINGS



SEVERITY (S)

- 5 = Death / asset or building loss

- 4 = Major injury/process disruption: >7 days

- 3 = Lost time injury (reportable)/process disruption: >24hrs

- 2 = Lost time injury (non-reportable) /process disruption <24hrs

- 1 = Minor injuries/superficial damage

LIKELIHOOD (P)

- 5 = Inevitable

- 4 = Highly likely to occur

- 3 = Likely

- 2 = Remote

- 1 = Improbable/unlikely

OVERALL RISK

- 1-6 LOW

- 8-12 MEDIUM

- 15-25 HIGH



Hazard	Risk	S	L	RR	Minimum (mandatory) control measures to reduce risk	S	L	RR	Notes/Comments
					●				
					●				
					●				

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