

Landfill Hazardous Waste

Learning Outcome	Assessment Criteria	Source
1. Understand the legislative and regulatory requirements for a hazardous landfill	1.1 Describe the legislative requirements, regulations, codes of practice and guidance applicable to a hazardous landfill in terms of: - Design - Construction - Operation - Closure - Aftercare	Environmental permitting guidance: The landfill directive Landfill operators: environmental permits - Close your landfill site Natural Resources Wales / Guidance to help you comply with your Environmental Permit The Environmental Permitting (England and Wales) Regulations 2016 Understanding the Landfill Directive LFD 1 Landfill operators: environmental permits - Calculate your financial provision Landfill operators: environmental permits - Develop and maintain management plans
	1.2 Describe the principles of financial provision for landfill (including when to take an assessment, the timeframe and financial costs associated with aftercare)	
	1.3 Explain the relationship between permit conditions and operating techniques	
2. Understand the requirements for site engineering at a hazardous landfill	2.1 Describe the principles of containment	Landfill operators: environmental permits - Develop and maintain management plans Landfill operators: environmental permits - Manage landfill gas Landfill operators: environmental permits - Design and build your landfill site LFE5 Using geomembranes in landfill engineering Landfill operators: environmental permits - Construction quality assurance (CQA)
	2.2 Describe the characteristics of liner and capping designs	
	2.3 List the elements of site construction that require regulatory approval	



3. Understand the waste reception procedures for a hazardous landfill	3.1 Define hazardous waste in relation to landfill activities.	Dispose of waste to landfill Hazardous waste: Consignees Understanding the Landfill Directive LFD 1 Landfill operators: environmental permits - Accept the right waste Hazardous waste: consignment note guidance Hazardous waste: rejected loads guidance Natural Resources Wales / How to complete a hazardous waste consignment note Waste classification technical guidance WM3.pdf The Hazardous Waste (England and Wales) Regulations 2005 Natural Resources Wales / Submit your hazardous waste return Hazardous waste: Consignee returns Waste Support - Recovery and Disposal Codes
	3.2 List the types of waste banned from a hazardous landfill	
	3.3 Describe the legislative requirements, codes of practice and guidance applicable to the reception of hazardous waste at a hazardous landfill.	
	3.4 Describe the regulatory requirements and organisational procedures for dealing with unauthorised wastes.	
	3.5 Describe the waste inspection, identification procedures and handling requirements for the types of hazardous waste received on site (including asbestos).	
	3.6 Describe the uses, purposes and processing requirements for documents relating to the reception and validation of hazardous waste received on the site.	
	3.7 Describe the records required by legislation and by organisational procedures relating to the reception, inspection, and validation of hazardous wastes.	



4. Understand how to manage a hazardous landfill	4.1 Describe the procedures for managing vehicles on a landfill site	Workplace transport safety: A brief guide INDG199 LFE4 - Earthworks on landfill sites LFE5 Using geomembranes in landfill engineering Landfill operators: environmental permits - Monitor and report your performance Landfill operators: environmental permits - Design and build your landfill site ICoP Design of capping systems Landfill operators: environmental permits - Develop and maintain management plans How to comply with your environmental permit How we measure wind - Met Office Landfill operators: environmental permits
	4.2 Describe the implications of 'settlement' and 'compaction' for: - Restoration plan - Gas and leachate management	
	4.3 Describe the recommendations for managing landfill stability	
	4.4 Explain when landfill stability may be a problem	
	4.5 Explain why it is important to cover waste with suitable materials	
	4.6 List the types of waste that might damage landfill liners and restoration layers	
	4.7 Describe the procedures for controlling: - Mud and other debris - Noise - Dust - Odour - Litter	
	4.8 Explain why it is important to plan the phasing of filling operations	
5. Understand the procedures for managing	5.1 Explain why it is important to manage landfill gas	Guidance on the management of landfill gas Landfill operators: environmental permits - Manage landfill gas



landfill gas from a hazardous landfill	5.2 List the information that should be included in a landfill gas management plan	Landfill operators: environmental permits - Develop and maintain management plans The Landfill (England and Wales) Regulations 2002 Landfill operators: environmental permits - Monitor and report your performance Review and investigation of deep-seated fires within landfill sites final report Landfill operators: environmental permits
	5.3 List the information that should be included in a landfill gas monitoring and sampling plan	
	5.4 Outline the actions to take if a perimeter borehole contains landfill gas components (methane, CO ₂) at a range of levels (Including above a compliance limit)	
	5.5 Explain why it is important to collect, utilise and treat landfill gas	
	5.6 Explain why it is important to control landfill gas emissions and manage gas field balancing	
	5.7 Describe the procedures for dealing with deep and shallow fires within a hazardous landfill	
6. Understand the procedures for managing leachate from a hazardous landfill	6.1 Describe the requirements for managing leachate	Guidance on monitoring of landfill leachate, groundwater and surface water Landfill operators: environmental permits - Monitor and report your performance IPPC S5.03 Guidance for the Treatment of Landfill Leachate Part 1 Landfill operators: environmental permits - Manage leachate A technical assessment of leachate recirculation
	6.2 Explain why leachate levels must be maintained below a limit	
	6.3 Describe the procedure for dealing with: - Leachate above control levels - A breach of compliance limit occurring	



	6.4 Describe the principles of leachate treatment and the associated pollution risks	
	6.5 Describe when a leachate re-circulation system may be permitted and any requirements for its use	
7. Understand how to monitor groundwater and surface water at a hazardous landfill	7.1 Explain why monitoring groundwater and surface water is needed at a hazardous landfill site	Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water
	7.2 Differentiate between monitoring for: - Operational performance - Permit compliance limits	
8. Understand the procedure for closure and aftercare of a hazardous landfill	8.1 Explain why it is important to develop a restoration and aftercare scheme for a hazardous landfill.	Landfill and deposit for recovery: aftercare and permit surrender Landfill operators: environmental permits - Close your landfill site Landfill operators: environmental permits - Develop and maintain management plans Landfill operators: environmental permits - Monitor and report your performance
	8.2 Describe the records required in relation to the closure and aftercare of landfill sites.	
	8.3 Describe the process of surrendering an environmental permit for a hazardous landfill.	
9. Understand the main causes of accidents in relation to hazardous landfill activities and how to prevent them	9.1 Identify the causes of accidents in relation to hazardous landfill activities	Landfill operators: environmental permits - Develop and maintain management plans Risk assessment: Steps needed to manage risk - HSE Health and safety training Waste20: Landfill fires - controlling the risk Dangerous Substances and Explosive Atmospheres: Dangerous Substances and Explosive Atmospheres Regulations 2002. Approved Code of Practice and guidance L138
	9.2 Identify the methods used to prevent accidents in relation to hazardous landfill activities	
	9.3 Describe the dangerous substances and areas of	



	explosive atmospheres that may exist on a landfill site	REPORT ISSUE HISTORY - ICoP2 - Landfill Gas.pdf ASSESSMENT REPORT Landfill operators: environmental permits The Dangerous Substances and Explosive Atmospheres Regulations 2002 - Fire and explosion
	9.4 Outline the operator's responsibilities for area classification and marking zones	
	9.5 Explain how to control ignition sources to reduce fire risk at a hazardous landfill site	

