27 March 2023

ADDENDUM TO THE RECOMMENDATIONS OF THE TRIPARTITE CLUSTER FOR WASTE MANAGEMENT INDUSTRY FOR THE WASTE COLLECTION AND MATERIALS RECOVERY SUB-SECTORS

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1. OVERVIEW

1.1 On 24 January 2022, the Tripartite Cluster for Waste Management (TWCM) Industry released its first set of recommendations to introduce a Progressive Wage Model (PWM) for the waste management industry to take effect from 1 July 2023. The recommendations were accepted by the Government and to be implemented under the licensing[1] regime through the Order imposed by the Commissioner for Labour. Full details of the TCWM Report 2022 can be found at www.ntuc.org.sg/tripartiteguidelines.

1.2 The waste management industry comprises about 370 licensed General Waste Collectors (GWCs), 3 Public Waste Collectors (PWCs) and about 360 licensed General Waste Disposal Facilities (GWDFs) as of 31 Mar 2023. The GWCs, PWCs and GWDFs are regulated under the Environmental Public Health Act and subsidiary legislations. Existing licensing conditions stipulate mandatory Workforce Skills Qualifications (WSQ) modules for specified job roles (such as waste collection crew and driver).

1.3 The Government had accepted TCWM's recommendation for all licensed waste companies to meet the minimum training requirements for all PWM roles, with at least 2 Workforce Skills Qualification (WSQ) modules for entry-level job roles, and additional WSQ modules for workers who are at higher-level job roles. This is to ensure that the waste management workforce will be adequately trained to handle their assigned tasks and equipped with the skillsets to observe safety standards due to the higher occupational risk of their work.

1.4 This addendum report sets out the updated list of training modules as validated and endorsed by the TCWM for the waste management industry. Please refer to Annex A for details.

1.5 The members of TCWM are listed in Annex B.

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[1] Refers to the Environmental Public Health Act 1987, Environmental Public Health (General Waste Collection) Regulations, Rg 12, Environmental Public Health (General Waste Disposal Facility) Regulations 2017 and Code of Practice for Licensed General Waste Collectors

2. PWM SKILLS LADDER – MINIMUM TRAINING REQUIREMENTS

2.1 Under the TCWM recommendations, the number of WSQ training modules will commensurate with the job roles that the workers are deployed in, with higher number of WSQ modules for the higher job roles, as detailed below:

Waste Collection Sub-Sector	Materials Recovery Sub-Sector	PWM Training Requirements
• Crew	• Sorter	Minimum 2 WSQ modules
• Senior Crew • Team Lead • Driver* • Senior Driver	• Senior Sorter • Machine Operator • Team Lead	Minimum 3 WSQ modules (cumulative^)
• Supervisor • Captain	• Plant Supervisor	Minimum 4 WSQ modules (cumulative^)

**may operate either Rear-End Loader (REL) or Hooklift trucks*
^cumulative modules would include the WSQ modules attained at the preceding job level

2.2 To meet the National Environment Agency (NEA)'s GWC and GWDF licensing conditions, all resident waste management workers of all waste management companies need to attain the mandatory training requirements based on their respective job roles by 1 July 2023.

2.3 Upon further review of the list of WSQ modules and to ensure adequate training capacity, additional WSQ training modules had been curated and rolled out since September 2022. Waste management companies would have a wider choice in selecting the relevant training courses for their workers. Please refer to Annex A for details.

2.4 SSG and NEA reviewed and developed the Technical Skills and Competencies (TSC) with the industry to articulate the specific skills coverage required for the Waste Management (WM) workforce. The new TSC codes have been effective since January 2023. Corresponding modules under the PWM will transit to new TSC codes from July 2023 and will provide greater skills distinction and clarity in the Statement of Attainment of the completed module. Individuals who had attained qualifications from existing WSQ modules bearing same TSC codes will be recognised as having met the PWM training requirements.

3. CONCLUSION

3.1 The TCWM is heartened to know that many waste management companies had taken early efforts to send or schedule their workers for training to meet the mandated training requirements by the implementation date. The TCWM would like to remind all employers to schedule their workers for the stipulated number of WSQ training modules to be in compliance with PWM training requirements come 1 July 2023.

3.2 By equipping their workers with the relevant and core competencies, the TCWM believes employers would then benefit from a more productive and effective workforce which will carry out their duties competently and safely.

3.3 The TCWM would also like to urge service buyers to support their service providers in sending their workers for training. Service buyers may consider placing greater emphasis in their tender evaluation criteria to recognise service providers who have invested in their workers' upskilling beyond what is stipulated as minimum requirements under PWM. Service buyers who recognise such service providers will stand to gain from a highly competent waste management workforce.

3.4 As the Environmental Services industry gears towards a vibrant, sustainable and professional industry that will provide services and solutions to help achieve the zero-waste vision and a clean and livable Singapore, the TCWM believes that all stakeholders will stand to benefit through the close partnership and support in order to realise this vision.

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ANNEX A: LIST OF WSQ TRAINING MODULES RECOMMENDED AND ENDORSED BY THE TCWM

Note: The following lists will be updated periodically in consultation with and endorsement by the TCWM.

Employers are advised to enquire with the Approved Training Organisations (ATOs) for the latest available WSQ training modules.
For more details, please visit www.myskillsfuture.sg.

Applicable to Waste Collection Sub-Sector: Crew

TSC Title	Course Description	Proficiency Level	TSC Code	New TSC Code	PWM Training Requirements
Waste Collection Management	[For **Class A & B GWCs**] General Waste and Recyclable Waste Collection and Management (Level 1) - Carry out collection of Class A and Class B General Waste and Recyclable Waste	1	EVS-WMO-1002-1.1	EVS-WMO-1008-1.1	2 Mandatory WSQ Modules
	[For **Class C GWCs**] Sludge and Greasy Waste Collection and Management - Carry out collection and disposal of Class C General Waste	1	EVS-WMO-1002-1.1	EVS-WMO-1009-1.1	
Workplace Safety and Health Practices Implementation	Identify WSH hazards and risk control measures in waste sorting and assist in inspection and investigation of incidents	2	EVS-WSH-2006-1.1	-	

Applicable to Waste Collection Sub-Sector: Senior Crew					
TSC Title	**Course Description**	**Proficiency Level**	**TSC Code**	**New TSC Code**	**PWM Training Requirements**
Waste Collection Management	[For **Class A & B GWCs**] General Waste and Recyclable Waste Collection and Management (Level 1) - Carry out collection of Class A and Class B General Waste and Recyclable Waste	1	EVS-WMO-1002-1.1	EVS-WMO-1008-1.1	3 Mandatory WSQ Modules (cumulatively)
	[For **Class C GWCs**] Sludge and Greasy Waste Collection and Management - Carry out collection and disposal of Class C General Waste	1	EVS-WMO-1002-1.1	EVS-WMO-1009-1.1	
Workplace Safety and Health Practices Implementation	Identify WSH hazards and risk control measures in waste sorting and assist in inspection and investigation of incidents	2	EVS-WSH-2006-1.1	-	
Incident and Accident Investigation	Respond to and support the investigation of incidents	2	EVS-WSH-2002-1.1	-	

Applicable to Waste Collection Sub-Sector: Team Lead					
TSC Title	**Course Description**	**Proficiency Level**	**TSC Code**	**New TSC Code**	**PWM Training Requirements**
Waste Collection Management	[For **Class A & B GWCs**] General Waste and Recyclable Waste Collection and Management (Level 1) - Carry out collection of Class A and Class B General Waste and Recyclable Waste	1	EVS-WMO-1002-1.1	EVS-WMO-1008-1.1	3 Mandatory WSQ Modules *(would have taken at preceding job level)*
	[For **Class C GWCs**] Sludge and Greasy Waste Collection and Management - Carry out collection and disposal of Class C General Waste	1	EVS-WMO-1002-1.1	EVS-WMO-1009-1.1	
Workplace Safety and Health Practices Implementation	Identify WSH hazards and risk control measures in waste sorting and assist in inspection and investigation of incidents	2	EVS-WSH-2006-1.1	-	
Incident and Accident Investigation	Respond to and support the investigation of incidents	2	EVS-WSH-2002-1.1	-	
Learning & Development	Apply workplace learning techniques to enhance employees' development	2	EVS-PDV-2003-1.1	-	Optional

Applicable to Waste Collection Sub-Sector: Supervisor					
TSC Title	**Course Description**	**Proficiency Level**	**TSC Code**	**New TSC Code**	**PWM Training Requirements**
Waste Collection Management	[For **Class A & B GWCs**] General Waste and Recyclable Waste Collection and Management (Level 1) - Carry out collection of Class A and Class B General Waste and Recyclable Waste	1	EVS-WMO-1002-1.1	EVS-WMO-1008-1.1	4 Mandatory WSQ Modules (cumulatively)
	[For **Class C GWCs**] Sludge and Greasy Waste Collection and Management - Carry out collection and disposal of Class C General Waste	1	EVS-WMO-1002-1.1	EVS-WMO-1009-1.1	
Workplace Safety and Health Practices Implementation	Identify WSH hazards and risk control measures in waste sorting and assist in inspection and investigation of incidents	2	EVS-WSH-2006-1.1	-	
Incident and Accident Investigation	Respond to and support the investigation of incidents	2	EVS-WSH-2002-1.1	-	
Learning & Development	Apply workplace learning techniques to enhance employees' development	2	EVS-PDV-2003-1.1	-	

Applicable to Waste Collection Sub-Sector: Driver					
TSC Title	**Course Description**	**Proficiency Level**	**TSC Code**	**New TSC Code**	**PWM Training Requirements**
Waste Collection Management	[For **Class A & B GWCs**] General Waste and Recyclable Waste Collection and Management (Level 2) - Use appropriate compaction vehicles and equipment to collect, compress, transport and dispose waste	2	EVS-WMO-2002-1.1	EVS-WMO-2008-1.1	3 Mandatory WSQ Modules
	[For **Class A & B GWCs**] Waste Collection Management - Operate hook-lift mounted trucks and equipment to collect and transport waste during waste collection	2	EVS-WMO-2002-1.1	EVS-WMO-2002-2.1	
	[For **Class C GWCs**] Sludge and Greasy Waste Collection and Management - Carry out collection and disposal of Class C General Waste	1	EVS-WMO-1002-1.1	EVS-WMO-1009-1.1	
Workplace Safety and Health Practices Implementation	Identify WSH hazards and risk control measures in waste sorting and assist in inspection and investigation of incidents	2	EVS-WSH-2006-1.1	-	
Incident and Accident Investigation	Respond to and support the investigation of incidents	2	EVS-WSH-2002-1.1	-	

Applicable to Waste Collection Sub-Sector: **Senior Driver**					
TSC Title	**Course Description**	**Proficiency Level**	**TSC Code**	**New TSC Code**	**PWM Training Requirements**
Waste Collection Management	[For **Class A & B GWCs**] General Waste and Recyclable Waste Collection and Management (Level 2) - Use appropriate compaction vehicles and equipment to collect, compress, transport and dispose waste	2	EVS-WMO-2002-1.1	EVS-WMO-2008-1.1	3 Mandatory WSQ Modules *(would have taken at preceding job level)*
	[For **Class A & B GWCs**] Waste Collection Management - Operate hook-lift mounted trucks and equipment to collect and transport waste during waste collection	2	EVS-WMO-2002-1.1	EVS-WMO-2002-2.1	
	[For **Class C GWCs**] Sludge and Greasy Waste Collection and Management - Carry out collection and disposal of Class C General Waste	1	EVS-WMO-1002-1.1	EVS-WMO-1009-1.1	
Workplace Safety and Health Practices Implementation	Identify WSH hazards and risk control measures in waste sorting and assist in inspection and investigation of incidents	2	EVS-WSH-2006-1.1	-	
Incident and Accident Investigation	Respond to and support the investigation of incidents	2	EVS-WSH-2002-1.1	-	
Learning & Development	Apply workplace learning techniques to enhance employees' development	2	EVS-PDV-2003-1.1	-	Optional

Applicable to Waste Collection Sub-Sector: Captain					
TSC Title	**Course Description**	**Proficiency Level**	**TSC Code**	**New TSC Code**	**PWM Training Requirements**
For **Class A & B GWCs**					
Waste Collection Management *Note: Captain is required to be trained in more than 1 vehicle type, thus need to be trained for 2 different course description*	General Waste and Recyclable Waste Collection and Management (Level 2) - Use appropriate compaction vehicles and equipment to collect, compress, transport and dispose waste; **AND**	2	EVS-WMO-2002-1.1	EVS-WMO-2008-1.1	4 Mandatory WSQ Modules *(cumulatively)*
	Waste Collection Management - Operate hook-lift mounted trucks and equipment to collect and transport waste during waste collection	2	EVS-WMO-2002-1.1	EVS-WMO-2002-2.1	
Workplace Safety and Health Practices Implementation	Identify WSH hazards and risk control measures in waste sorting and assist in inspection and investigation of incidents	2	EVS-WSH-2006-1.1	-	
Incident and Accident Investigation	Respond to and support the investigation of incidents	2	EVS-WSH-2002-1.1	-	
Learning & Development	Apply workplace learning techniques to enhance employees' development	2	EVS-PDV-2003-1.1	-	Optional
For **Class C GWCs**					
TSC Title	**Course Description**	**Proficiency Level**	**TSC Code**	**New TSC Code**	**PWM Training Requirements**
Waste Collection Management	Sludge and Greasy Waste Collection and Management - Carry out collection and disposal of Class C General Waste	1	EVS-WMO-1002-1.1	EVS-WMO-1009-1.1	4 Mandatory WSQ Modules *(cumulatively)*
Workplace Safety and Health Practices Implementation	Identify WSH hazards and risk control measures in waste sorting and assist in inspection and investigation of incidents	2	EVS-WSH-2006-1.1	-	
Incident and Accident Investigation	Respond to and support the investigation of incidents	2	EVS-WSH-2002-1.1	-	
Learning & Development	Apply workplace learning techniques to enhance employees' development	2	EVS-PDV-2003-1.1	-	

Applicable to Materials Recovery Sub-Sector: Sorter				
TSC Title	**Course Description**	**Proficiency Level**	**TSC Code**	**PWM Training Requirements**
Waste Sorting Management	Perform Waste Sorting at a material recovery facility according to set procedures	1	EVS-WMO-1005-1.1	2 Mandatory WSQ Modules
Workplace Safety and Health Practices Implementation	Identify WSH hazards and risk control measures in waste sorting and assist in inspection and investigation of incidents	2	EVS-WSH-2006-1.1	

Applicable to Materials Recovery Sub-Sector: Senior Sorter				
TSC Title	**Course Description**	**Proficiency Level**	**TSC Code**	**PWM Training Requirements**
Waste Sorting Management	Perform Waste Sorting at a material recovery facility according to set procedures	1	EVS-WMO-1005-1.1	Mandatory WSQ Module *(would have taken)*
	Operate mechanical devices or heavy machinery to perform waste sorting	2	EVS-WMO-2005-1.1	Select (1) WSQ Module
Robotics and Automation Application	Apply procedural knowledge of robotic systems and automated technologies to execute environmental services tasks	2	EVS-TEM-2004-1.1	
Workplace Safety and Health Practices Implementation	Identify WSH hazards and risk control measures in waste sorting and assist in inspection and investigation of incidents	2	EVS-WSH-2006-1.1	Mandatory WSQ Module *(would have taken)*
Incident and Accident Investigation	Respond to and support the investigation of incidents	2	EVS-WSH-2002-1.1	Optional
Equipment and Inventory Management	Maintaining stocks and equipment for operations	2	EVS-EQM-2001-1.1	

Applicable to Materials Recovery Sub-Sector: Machine Operator				
TSC Title	**Course Description**	**Proficiency Level**	**TSC Code**	**PWM Training Requirements**
Waste Sorting Management	Perform Waste Sorting at a material recovery facility according to set procedures	1	EVS-WMO-1005-1.1	3 Mandatory WSQ Modules *(cumulatively)*
	Operate mechanical devices or heavy machinery to perform waste sorting	2	EVS-WMO-2005-1.1	
Workplace Safety and Health Practices Implementation	Identify WSH hazards and risk control measures in waste sorting and assist in inspection and investigation of incidents	2	EVS-WSH-2006-1.1	
Incident and Accident Investigation	Respond to and support the investigation of incidents	2	EVS-WSH-2002-1.1	Optional

Applicable to Materials Recovery Sub-Sector: Team Lead				
TSC Title	**Course Description**	**Proficiency Level**	**TSC Code**	**PWM Training Requirements**
Waste Sorting Management	Perform Waste Sorting at a material recovery facility according to set procedures	1	EVS-WMO-1005-1.1	Mandatory WSQ Module *(would have taken)*
	Operate mechanical devices or heavy machinery to perform waste sorting	2	EVS-WMO-2005-1.1	Select (1) WSQ Module *(would have taken either one)*
Robotics and Automation Application	Apply procedural knowledge of robotic systems and automated technologies to execute environmental services tasks	2	EVS-TEM-2004-1.1	
Workplace Safety and Health Practices Implementation	Identify WSH hazards and risk control measures in waste sorting and assist in inspection and investigation of incidents	2	EVS-WSH-2006-1.1	Mandatory WSQ Module *(would have taken)*
Incident and Accident Investigation	Respond to and support the investigation of incidents	2	EVS-WSH-2002-1.1	Optional
Equipment and Inventory Management	Maintaining stocks and equipment for operations	2	EVS-EQM-2001-1.1	
Learning & Development	Apply workplace learning techniques to enhance employees' development	2	EVS-PDV-2003-1.1	

Applicable to Materials Recovery Sub-Sector: Supervisor				
TSC Title	**Course Description**	**Proficiency Level**	**TSC Code**	**PWM Training Requirements**
Waste Sorting Management	Perform Waste Sorting at a material recovery facility according to set procedures	1	EVS-WMO-1005-1.1	Mandatory WSQ Module *(would have taken)*
	Operate mechanical devices or heavy machinery to perform waste sorting	2	EVS-WMO-2005-1.1	Select (1) WSQ Module
Learning & Development	Apply workplace learning techniques to enhance employees' development	2	EVS-PDV-2003-1.1	
Robotics and Automation Application	Apply procedural knowledge of robotic systems and automated technologies to execute environmental services tasks	2	EVS-TEM-2004-1.1	
	Operate automated systems and follow safety procedures in waste sorting operations	3	EVS-TEM-3004-1.1	Mandatory WSQ Module
Workplace Safety and Health Practices Implementation	Identify WSH hazards and risk control measures in waste sorting and assist in inspection and investigation of incidents	2	EVS-WSH-2006-1.1	Mandatory WSQ Module *(would have taken)*
Incident and Accident Investigation	Respond to and support the investigation of incidents	2	EVS-WSH-2002-1.1	Optional
Equipment and Inventory Management	Maintaining stocks and equipment for operations	2	EVS-EQM-2001-1.1	

ANNEX B: TRIPARTITE CLUSTER FOR WASTE MANAGEMENT (TCWM) INDUSTRY FOR THE TERM OF OFFICE FROM JANUARY 2021 TO MARCH 2023

Description	Organisation	Representative
Chair	National Trades Union Congress (NTUC)	Mr. Fahmi Aliman Director, Operations & Mobilisation Division
Co-Chair	Singapore National Employers Federation (SNEF)	Mr. Felix Loh Deputy Honorary Secretary *Concurrently CEO, Gardens by the Bay*
Labour Movement	Building Construction and Timber Industries Employees' Union (BATU)	Mr. Zainal Sapari, Executive Secretary
		Mr. Mohamad Yatim Bin Ahmad Executive Committee Member & Vice Chairman, SembWaste Pte Ltd Branch
	Employment and Employability Institute (e2i)	Ms. Tan Cheong Ling Head, Built Environment
Industry Association (Service Providers)	Waste Management & Recycling Association of Singapore (WMRAS)	Ms. Melissa Tan Chairman *Concurrently CEO, Wah & Hua Pte Ltd*
		Mr. Milton Ng Vice Chairman *Concurrently Chief Operating Officer, 800 Super Waste Management*
		Mr. Lee Kok Kin Executive Committee Member *Concurrently CEO, SembWaste Pte Ltd*
		Ms. Erika Tan Sub-committee Member for Waste Collection *Concurrently Manager, HCG Environment*
Service Buyers	Real Estate and Developer's Association of Singapore Management (REDAS)	Mr. Moses Lee Sze Yuan Committee Member *Concurrently Senior Vice-President, Investments & Asset Management, Mapletree Investments Pte Ltd*
	Singapore Hotel Association (SHA)	Mr. Ho Chung Kain Board Member *Concurrently Director, Keck Seng Hotel Pte Ltd*
	Singapore International Facility Management Association (SIFMA)	Mr. Jonathan Koh Member
	Lendlease	Mr. Justin Gabbani CEO Asia
Government	Ministry of Manpower (MOM)	Mr. Lee Chung Wei Divisional Director, Workplace Policy and Strategy Division
	National Environment Agency (NEA)	Mr. Cheang Kok Chung Deputy Director-General of Environmental Protection & Group Director (Resource & Sustainability Group), National Environment Agency (NEA)
	SkillsFuture Singapore (SSG)	Ms. Loh Gek Khim Director, Industry Development Division 1
	Workforce Singapore (WSG)	Ms. Safrah Eusoof Director, Enterprise Development Group, Healthcare, Social & Business Services Division