

WSH In Waste Management Sector



MINISTRY OF
MANPOWER

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A Great Workforce A Great Workplace

Overview of Presentation



**WSH
Statistics**



**Common
Hazards**



**Good
Practices**



**Case
Studies**



SAFE Measures





WSH Statistics

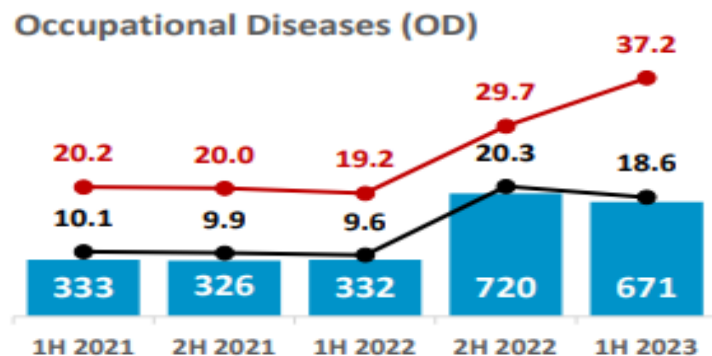
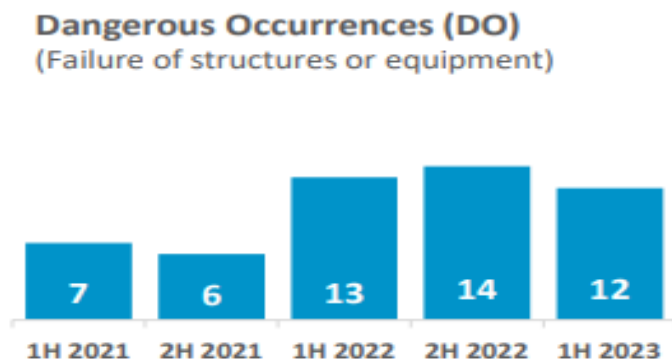
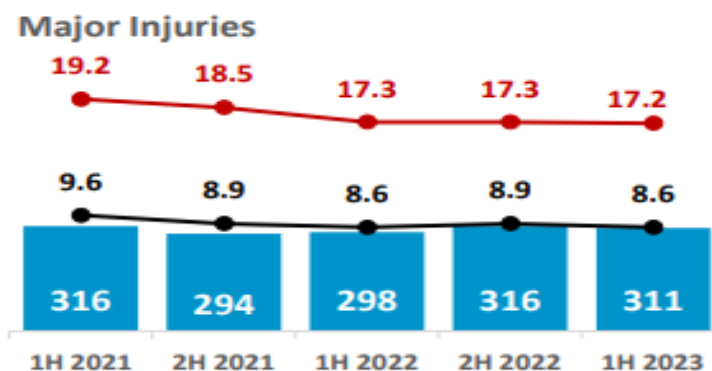
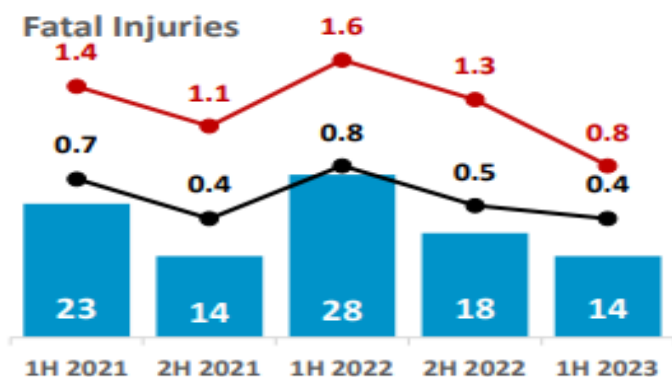


National WSH Statistics – First Half 2023

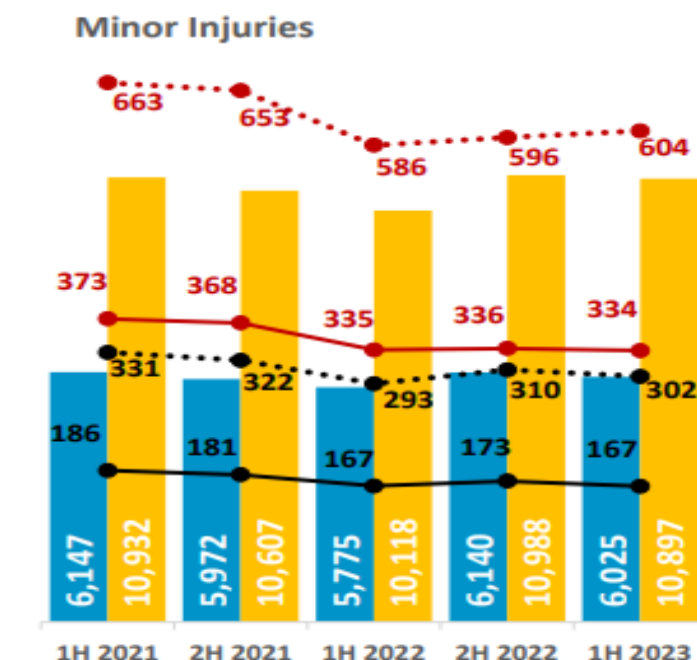
January – June 2023

SINGAPORE WORKPLACE SAFETY & HEALTH REPORT

Improvement in rate of workplace fatalities in 1H 2023, while rate of workplace major injuries remained stable.



■ No. of Injuries/OD/DO
— 6-month rate
— Annualised rate
■ No. of Minor Injuries [N]
— 6-month rate [N]
— Annualised rate [N]
All rates are per 100,000 workers

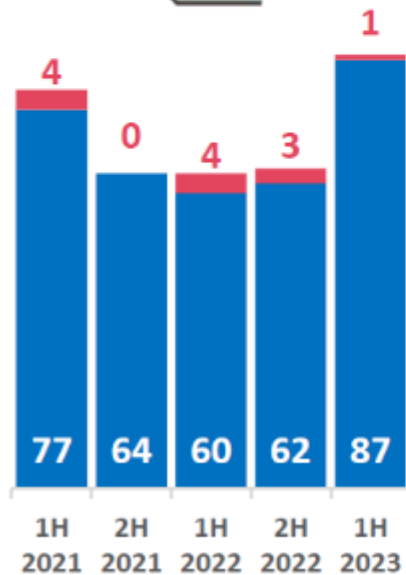


National WSH Statistics – Industries & Causes

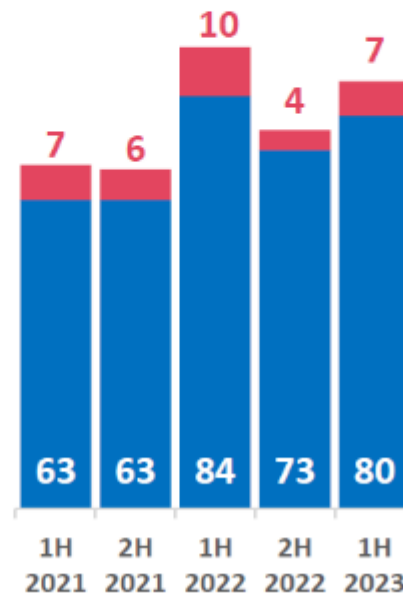
Manufacturing & Construction were leading sectors.
Slips, Trips & Falls remained the top cause of major injuries in 1H 2023.

Leading Sectors / Industries

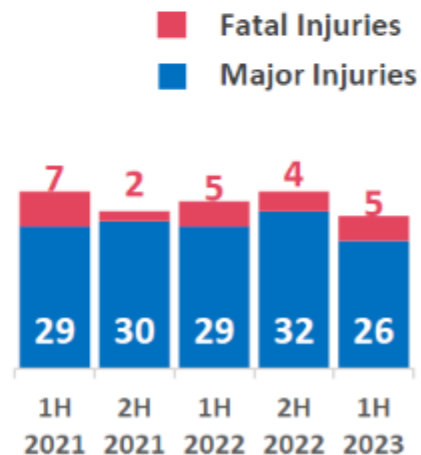
1st Manufacturing



2nd Construction



3rd Transportation & Storage

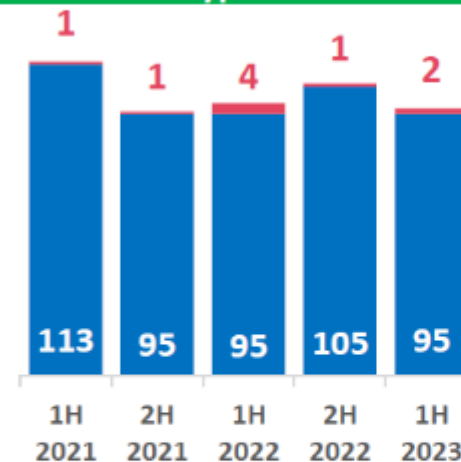


■ Fatal Injuries
■ Major Injuries

Leading Causes

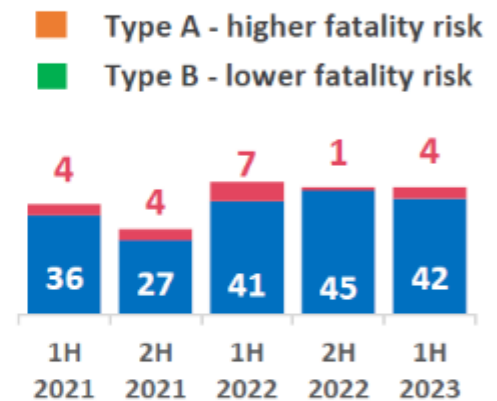
1st Slips, Trips & Falls

Type B



2nd Falls from Height

Type A



■ Type A - higher fatality risk
■ Type B - lower fatality risk

3rd Machinery Incidents

Type B



4th Struck by Falling Objects

Type A



Common Hazards



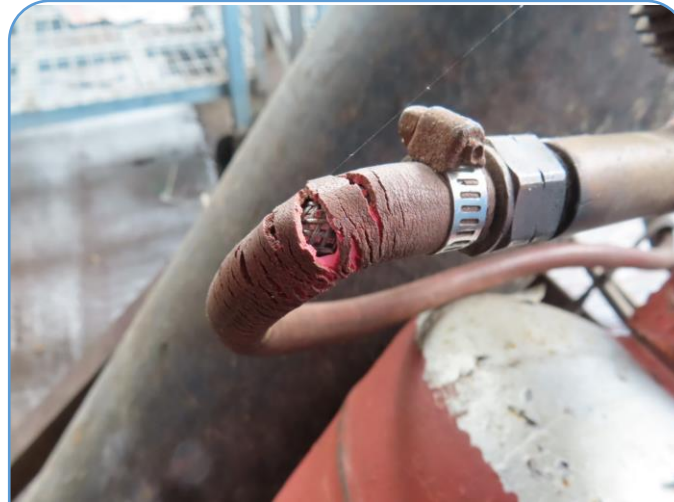
Common Hazards in Waste Recycling Workplaces



Fire Hazards



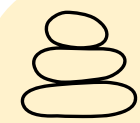
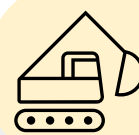
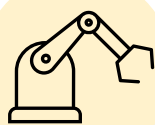
Flash Fire from
Electrostatic
Discharge (ESD)



Damaged
Equipment for Hot
Works Activity



Ignition Source/
Weather



Managing Hazardous Substance



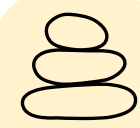
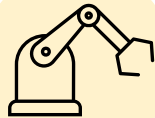
Personal Protective Equipment (PPE) not used during transferring



Unlabeled Intermediate Bulk Container (IBC)



General ventilation instead of Local Exhaust Ventilation (LEV)



Machinery Hazards



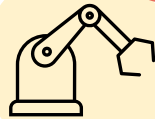
Unguarded Machinery



Modification of Hand Tools



Unguarded Moving Parts



Traffic Management Risks



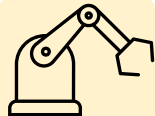
Traffic Management Plan not Implemented



Goods and Vehicle obstructing Pedestrian Path



Poor Awareness of Traffic Controller



Electrical Hazards



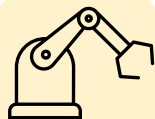
Exposed Live
Conductors in
Distribution Box
(DB)



Damaged Isolator
Switch



Usage of Non
Weatherproof
Socket and
Extension Socket



Material Handling Equipment (MHE)



Misusing of
Equipment



Unauthorised
repair of MHE



Unsafe Use
of Forklift



Slip, Trip & Fall



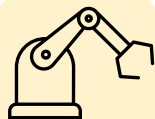
Slippery Floor Surfaces



Poor Housekeeping



Unsafe Access



Stockpile and Storage



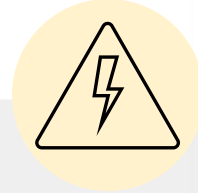
Steep Slope
Gradient for
Storage Pile



Safe Working
Load (SWL) not
indicated



Storing Material
against Load-
bearing Structures



Working at Height Hazards



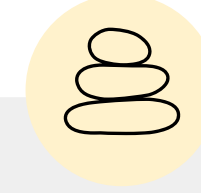
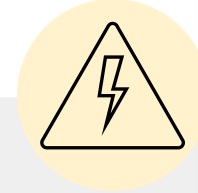
Unguarded
Opening



Fragile
Surface not
Labeled



Elevated Work
Area
Unguarded



Good Practices



Good Practices – Fire Hazard

Good Practices

- Effective bonding to prevent ESD
- Usage of conductive hoses and dip pipes for transferring of solvent
- Provision of firefighting equipment
- Use of non-return valves and routine replacement of hoses used in hot works
- Regular damping during hot weather
- Designated smoking zone



Good Practices – Hazardous Substance

Good Practices

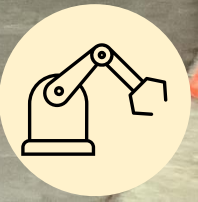
- Provision of bund wall for flammable substance
- Proper labeling of hazardous substance
- Use of proper/ fire-resistant PPEs
- Provision of LEV in work processes
- Proper storage of hazardous & flammable substance
- Adequate training for employees



Good Practices – Machinery Safety

Good Practices

- Provision of physical guarding/ fencing of moving parts
- Provision of interlocking devices
- Implementation of Lock Out & Tag Out (LOTO) procedure
- Guarding/ interlocks devices shall not be removed or deactivated
- Adequate training for employees



Good Practices – Traffic Management

Good Practices

- TMP implemented in the workplace
- Minimise unnecessary reversing in the workplace
- Designated walkway
- Mirrors provided at blind spots
- Adequate training for traffic controller
- Sufficient lighting shall be provided to aid pedestrians, drivers and operators



Good Practices – Electrical Hazard

Good Practices

- Use of explosion/ weather-proof appliances
- Live wires & conductors are enclosed by an intermediate barrier within the Distribution Board (DB)
- Provision of Bonding connection
- Replacing all damaged appliances or wires
- Inspection by Licensed Electrical Workers (LEWs) if necessary



Good Practices – Material Handling Equipment

Good Practices

- All MHEs shall be maintained in proper conditions
- Unauthorised attachment shall not be used
- Illegal modification shall be not carried on the MHE
- MHE shall be used according to their intended use
- Ignition key shall be properly managed
- Operators shall wear seatbelt during operation



Good Practices – Slip, Trip & Fall

Good Practices

- Routine & Proper housekeeping
- Indoor work area to keep dry
- Proper PPE or footwear to be worn
- Usage of storage racks/containers to store goods & materials
- Designated pedestrian pathway to be clear from goods or equipment



Good Practices – Stockpile & Storage

Good Practices

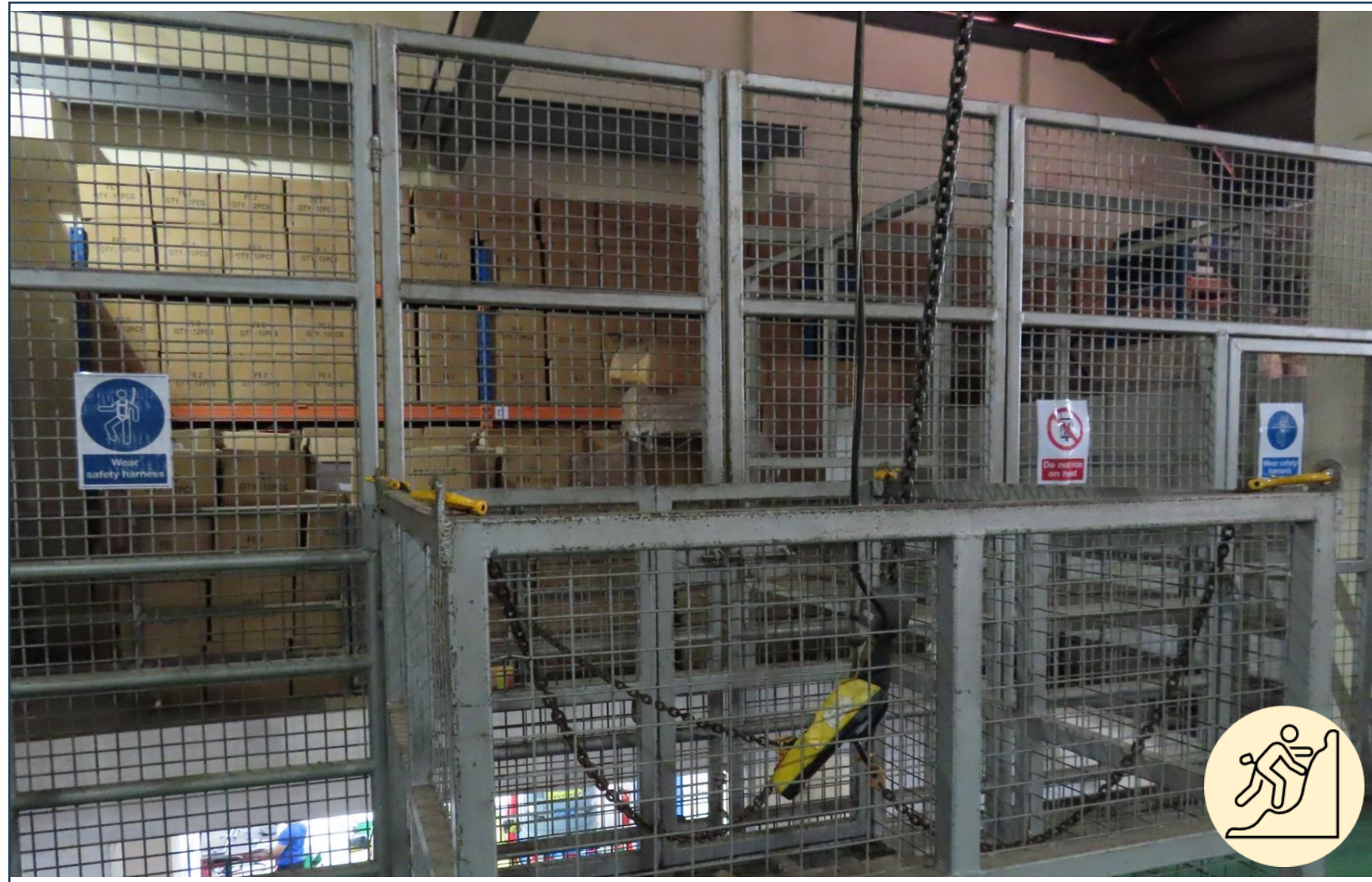
- Ensure stockpiles are not stacked against walls or structural components unless designed for
- Stockpiles are kept compacted & as low as possible
- Clear indication of safe working load (SWL) for storage racks
- Goods are stored in a stable manner



Good Practices – Working at Height (WAH)

Good Practices

- Open sides & Openings are effectively guarded
- Guard-rails and barriers shall be suitable & rigid
- Guard-rails are reinstated as soon as possible
- Provision of PPEs for WAH
- Usage of suitable WAH equipment
- Use of platform ladder
- Supervision when WAH
- Workers trained in WAH



Case Studies



Case Study 1 – Unsafe Workplace



Unsafe Conditions & Observations

- High material stockpiles
- Cavities within stockpiles
- TMP not implemented
- Excavators parked on material stockpiles
- Skid bins stored against building wall
- No RA for storage of materials in open yard
- SWL not indicated on storage racks
- No proper means for access & egress

- | | |
|---|---|
| <p><u>Enforcement Outcome</u></p> <p>Composition Fines
amounting to \$6,000 &
Notices of Non
Compliance issued</p> | <p><u>SWO</u></p> <p><u>Duration:</u></p> <p>10 Weeks</p> |
|---|---|

Composition Fines
amounting to \$6,000 &
Notices of Non
Compliance issued

10 Weeks

Lesson Learnt

- Adhere to storage capacity
- Compliance to factory layout plan
- Implement TMP & proper storage plan
- Conduct RA for all work activities
- Carry out proper housekeeping

- 



Case Study 2 – Workplace Accident

Brief description

- Injured worker (IW) was preparing to cut a piece of metal rod using the alligator shearing machine, as the rod had become distorted after he used it to clear an obstruction from the baler machine.
- As he approached the alligator shearing machine, IW tripped over a heap of steel frames and fell forward.
- In an attempt to break his fall, his right hand accidentally activated the shearing machine while his left hand was on the lower table block. This accidental contact resulted in the lowering of the clamping jaw and the shearing blade, leading to a severe injury to IW's left thumb.

Findings

1. Alligator shear was not guarded
2. Machine can be operated using single limb control
3. Control panel was not covered
4. Poor housekeeping at work area
5. Risk Assessment was not conducted on the use of the shearing machine
6. Safe work procedure was also not complied
7. No supervision



Case Study 2 – Lesson Learn



- Proper housekeeping



- Machinery guarding
- Operation redundancy



- Conduct Risk Assessment (RA)
- Implementation of RA



S.A.F.E. Measures



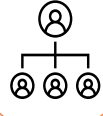
Safety Accountability, Focus and Empowerment (SAFE) Measures



Strengthen ownership at sectoral level

Measures to strengthen the WSH ecosystem at the sector level

- Demerit point system for manufacturing sector
- Video surveillance system for construction sector
- Safe use of machineries and combustible dust
- More stringent safety requirements and new measures in Government construction tenders



Strengthen ownership at the company level

Measures to drive WSH accountability and ownership of corporate leaders

- Increase corporate leaders' accountability
- CEO or Board Director to attend the Top Executive WSH Programme
- Enhanced Workplace Health Surveillance Programme
- WSH resources to support SMEs



Strengthen ownership at the worker level

Measures to empower workers to take greater ownership of their own safety and that of their co-workers

- Empowering workers and members of public to raise WSH issues
- Online micro-learning component to Safety Orientation Course Recertification assessment



Action against errant companies

Measures to increase penalties imposed for WSH offences

- Doubling of composition fines from \$1,000 to \$2,000 for each WSH lapse
- Maximum fines will be increased from \$20,000 to \$50,000 for WSHA breaches that resulted in either death, serious injury or dangerous occurrences

SAFE Measures to Strengthen Ownership at Worker Level



Empowering workers and members of public to raise WSH issues



Online micro-learning to Safety Orientation Course Recertification



Empowering workers and members of public to raise WSH issues



Workers

- Alert supervisors of WSH issues they encounter.
- Be empowered to stop work if they feel that working conditions are unsafe.



Supervisors

- Remove risky conditions for WSH issues raised, and ensure proper controls are implemented.
- Alert company management of resources required such as equipment, materials or protective equipment.



Members of Public

- Members of public can also alert MOM on unsafe workplace conditions or an unsafe act.

Channels for reporting: SNAPSafe, Project Signboard, FWMOMCare App & Unions



SAFE Measures QR Code



Thank you

