SAPREF Business Management System	HSSE Procedure Level 2
Originator: Nomfundo Chonco **Document Controller:** Shawn Govender	**Document ID:** HSSE.PR.0139 **Effective date:** 30/04/2021 **Revision:** 0

Dropped/ Falling Object Procedure

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1.1 Purpose

This procedure outlines the Hazards associated with Dropped/ Falling Objects and the Control and Recovery Barriers required to manage Dropped/ Falling Objects. The aim is to protect personnel from being exposed to Dropped/ Falling Objects by increasing the awareness of all personnel on site, and to provide requirements for working safely where there is the potential for Dropped/ Falling Objects exposure.

1.2 Scope

- This procedure covers prevention and management of DROPS.

1.3 Target Group

- All personnel working at the sites

2. Description [back to TOC]

Introduction

A dropped object is "Any object, with the potential to cause death, injury or equipment/environmental damage that falls from its previous static position under its own weight"

Types of Dropped Objects

Static Dropped Object: Any object that falls from its previous position under its own weight.

Dynamic Dropped Object: any object that falls from its previous static position due to applied force from the equipment, machinery or moving object.

Kinetic Dropped Object: Any object that falls due to the repeated cyclic movement or the relative motion between equipment- But necessarily from collision.

This procedure is developed based on these four primary aspects of DROPS prevention:

- Enabling systems: the aspects of an HSE Management System that form the foundation of DROPS prevention, e.g. leadership commitment, incident reporting and investigation, communication and training, assurance, etc.
- Working at Height: the barriers needed to prevent DROPS from working at height activities whether from scaffolding, grating, or elevated work platforms. Examples include toe boards, securing tools with tethers or in bags, providing tarps and netting to cover grating and other gaps, robust barricades, etc.
- Overhead Equipment: the condition of fixtures and equipment such as lights, speakers, windsocks, grating, etc. and the barriers needed to keep them from falling as a result of corrosion, vibration, incorrect installation, etc.
- Material Handling: Lifting and hoisting, forklift transport, loading and unloading of trucks, automated transfer to heights, carrying material up to elevated locations.

Common Causes of Dropped Objects

- Items not properly fitted or secured in the first place
- Wrong or improper item used or fitted
- No secondary retention fitted
- Poor housekeeping at elevated platforms
- Lack of awareness, care and attention
- Lack of regular inspections
- Fixing becoming lose due to vibration
- Fixing becoming worn out or corroded
- Impact damage
- Lack of preventative maintenance
- Poor planning of tasks

Consequences of Dropped Objects

HUMAN FACTOR

- Fatality
- Serious injury
- Loss of earnings
- Loss of Quality of life

CORPORATE FACTOR

- Damage to property, equipment or assets
- Downtime and loss of earnings
- Low morale on the Organization

Erecting scaffold

- Scaffold must be erected by an approved scaffolding service provider and as per the SANS code.
- When scaffold is erected, always make sure that the material at height is stored is such a way that they are not posing a potential dropped objects
- No equipment should be stored on edges
- When passing scaffold equipment at height ensure the person receiving the equipment has a correct grip before releasing it.
- For load bearing scaffolding, ensure that it is load tested and has a blue tag

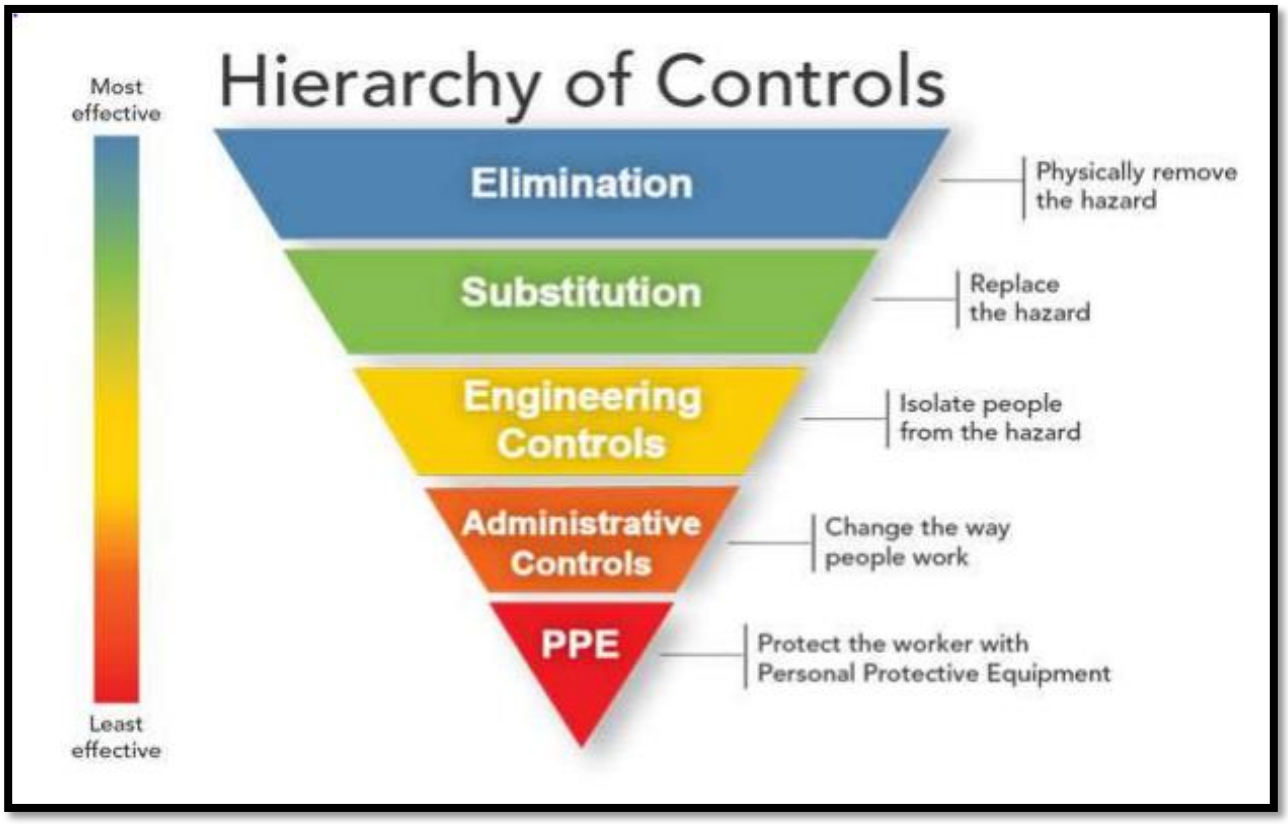
Risk Assessment

Identifying hazards

- Are only necessary tools taken to height to minimize loose objects?
- Are the items secure properly to a suitable fixture?
- Is recovery barrier necessary and effective?
- Are all safety devices and restrainers in place and secured?
- Are the fixing methods in good condition- no wear, damage and corrosion?
- Any loose items lying around?
- Is there any redundant equipment that can be removed?
- Is there a potential of impact damage?

Risk Control

Use the hierarchy of controls to treat the risk keeping in mind that PPE is the last line of defense and that the best controls are the ones that eliminate the risk. When choosing controls, you want to be as close to the top as possible. These controls can be used as a combination in some instances.



Examples of questions to ask when using the hierarchy of controls on DROPS

1. ELIMINATION- Can most of the activities be done at the ground level?

2. SUBSTITUTION – Can something else be done than working at height?

3. ENGINEERING CONTROLS – Can the work at height be done on a safe working platform?

4. SEGREGATION – how can we separate people from the falling objects?

5. REDUCTION IN PERSONNEL/TIME EXPOSURE- do we only have people involved in the activity within lifting area?

6. PERSONAL PROTECTIVE EQUIPMENT (PPE) –What PPE can be used to protect against falling /dropped objects.

Tools and Equipment at height

- ~~Tools and equipment used at height poses a threat if not secured properly at height; they can cause potential dropped/falling objects.~~
- ~~All tools used or taken to height should be correct and suitable to be used at height.~~
- Tools used at height must be manufactured such that lanyards can be attached.

Resources/ Tools required to prevent Dropped/ Falling Objects	
Lanyards	For all tools used at height. Must be able to take the weight of the tool. Must be as short as possible. Only SAPREF approved lanyard must be used.
Fish Buckets	All lose material and equipment must be kept in fish buckets e.g. bolts, hand tools, etc.
Fire blanket	When working on gratings at elevated platforms. Fire blanket must be placed to prevent tools and equipment from falling. Fire blankets should not be placed on platform openings
Catchment netting	Where there is of falling object and people have to walk/ work below, catchment netting must be installed.
Barricade and Warnings	Always barricade the area below when working at height. Never work directly below another person. Discuss coinciding activities.
Tool bags	All tools taken to height must be placed in a tool bag.

Lifting and hoisting

One of the main hazards in the lifting and hoisting activity is the potential dropping of the load. To ensure that this is mitigated for;

1. Only use load tested equipment including lifting lugs and for manual lifts use manila rope and lifting bags
2. Use daily checklist for cranes and trucks to ensure that equipment is fit for use on the day
3. Do a walkabout prior to putting up barricades to identify any coinciding activities. Barricade enough space around the lift area.
4. Ensure that lifts are done by competent people and that a rigging study has been done
5. Ensure that there are no loose materials on equipment prior to lifting e.g. bolts on RV lifting cages

Stacking and storage

Stacking and storage of material at the stores ~~in the warehouse~~ must adhere to SERV.C_P.PR.0021

Stacking and storage of material in the process area must be such that:

1. It is not obstruction emergency equipment and walkways
2. It is neatly packed and barricaded if necessary
3. Material at height must be removed as soon as possible
4. Stacking must be such that material frequently used equipment are easily accessible and heavy equipment are kept as low as possible
5. While the equipment is in use, it must be placed such that it may not fall by tying to a structure, keeping it away from platform edges, using restrainers, etc.
6. Tools are kept in a bag unless they are in use
7. Small objects are kept in a fish bucket and brought down as soon as possible
8. Equipment used for stacking must also be inspected for integrity

Transportation of equipment

- Ensure that all loads are properly secured – even if it has to be moved for a short distance
- Use the correct material to secure the load – securing material must be fit for purpose.
- Use a combination of strapping material
- Use dunnage, chocks and cribbage for items that can roll
- Ensure load weight is evenly distributed over the vehicle's centre of gravity
- Reduce speed when travelling over uneven road surfaces
- Don't allow the vehicle to move if the load causes the vehicle to tilt in any direction
- Follow a prescribed journey management plan
- Don't stand in the line of fire during loading, unloading and transit operations

Removal

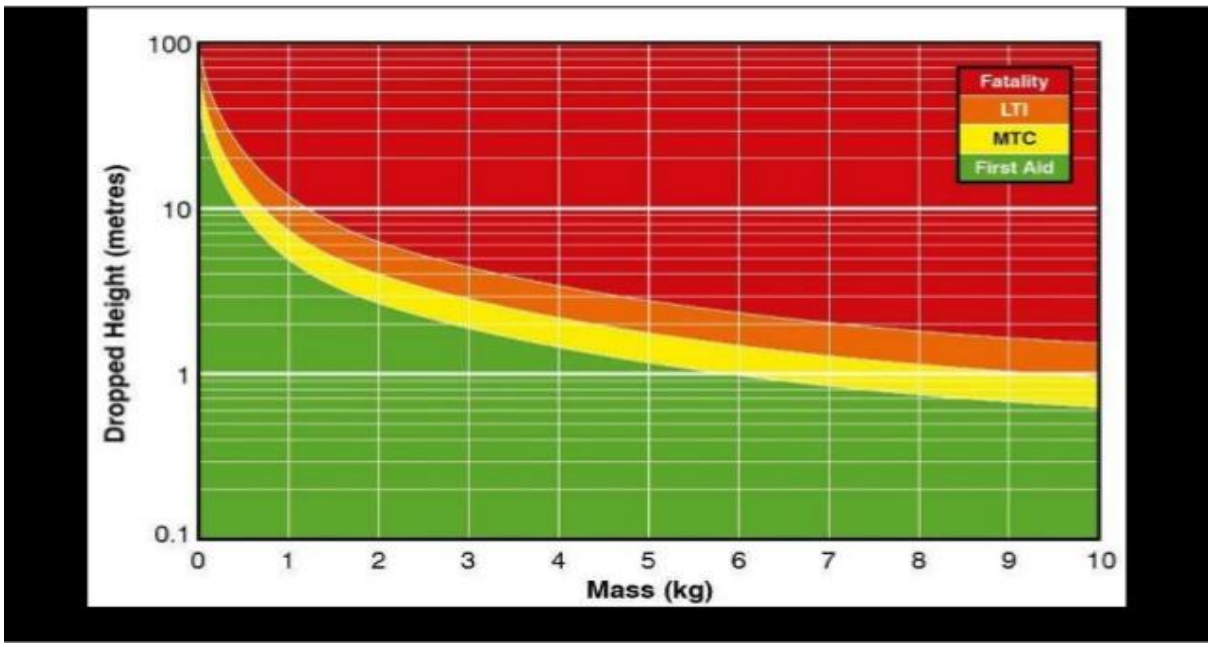
Removal of manway covers, sewer covers, handrails and gratings

1. Before removal of manway covers, sewer covers, handrails and grating; establish a form of solid barricading
2. Obtain authorization from 16(2) prior to removal of such equipment
3. Ensure that these equipment are properly reinstated prior to removal of barricading
4. Quality checks to be done on job completion where these equipment have been removed
5. Always check these equipment in your area for defects, corrosion and suitability to use

DROPS Incident Management

1. Isolate area where drop has occurred
2. Report all DROPS including putting it on CIS
3. Investigate DROPS incidents and put corrective actions
4. Action items from a DROP incident to include inspection of the fallen object
5. Determine the weight of the object so that DROPS calculator can be used
6. Survey the area where the incident has occurred to see if more DROPS could occur

DROPS CALCULATOR



DROPS PRE-TASK CHECKLIST

BEFORE YOU START ANY TASK, CONSIDER THE POTENTIAL FOR DROPPED OBJECTS:

- ☐ Have you considered other alternatives to working at height?
- ☐ Even if your task is not at height, consider the environment where you will perform the ask and any other activities that may be going on around you.
- ☐ Before work commences, visually inspect the work area for loose items and debris
- ☐ Check the equipment and structures in the work area to ensure that any fasteners, bolting, covers etc. are properly secured.
- ☐ Check that secondary retention is in place for all items secured above the work area, e.g. lighting, PA equipment etc.

WHEN WORKING AT HEIGHT:

- ☐ Use only tools and equipment approved for work at height, including the appropriate lanyards, ropes and tool bags, etc.
- ☐ Set up barriers beneath the work area and ensure the extent of the barricaded zone is appropriate to the work height
- ☐ Check that grating is secure and use mats where there is the potential for small items to fall through grating
- ☐ Where a scaffolding platform is employed, ensure toe-boards are installed.
- ☐ Remain vigilant of other activities going on around you and below you

WHERE THE TASK INVOLVES LOADING OR LIFTING:

- ☐ Ensure the lifting equipment, carrier or packaging is appropriate for the task and in good order.
- ☐ Ensure containerized loads are properly stacked, stored and secured
- ☐ Check tubulars for items left inside and employ cap ends where practicable
- ☐ Check tops of containers and fork lift pockets for loose items and debris

WHEN WORK IS COMPLETE:

- ☐ Clear all scrap, debris and loose items from the worksite and return all tools, before removing barriers

3. References [back to TOC]

3.1 Records

ID No.	Title	Holder	Location	Working Duration	Archive Duration

3.2 External References

Document Reference	Title	Issued by	Revision / Date

3.3 Internal References

Doc. ID	Title
HSSE.PR.0122	Working at height
SERV.C_P.PR.0021	Safe Handling and Storage of Materials at Heights

4. Keywords [back to TOC]

"[Click here and type Keywords]"

5. Definitions and abbreviations [back to TOC] Refer to SITE.RG.0001

Additions to this list must be sent via e-mail to the Bms Administrator.

6. Revision list [back to TOC]

Revision	Date	Description	Checked by	Approved by
0	30/04/2021	First Issue	N. Chonco	L. Schabalala
1	17/05/2025	Minor updates	L Mngoma, IHS4	M Francis, IHS

7. Appendices [back to TOC]