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Review				
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SIGNATURE

DATE

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ISSUE/REVISION INDEX

Issue Code	Revision					Revision Details
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Issue Codes: RC = Released for Execution, RD = Released for Design, RF = Released for Fabrication, RI = Released for Information, RP = Released for Purchase, RPA = Released for Permit Application, RQ = Released for Quotation, RR = Released for Review and Comments.



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1.0 PURPOSE & SCOPE

This Procedural Instruction is a guide to establish the expectations and requirements for the prevention of dropped objects on NAPG projects. It applies to all workers on a NAPG project. The scope of this instruction is to establish the minimum requirements, measures and actions to be taken on NAPG Projects.

If there are any deviations from the requirements of this procedure the work method / risk assessment must identify the deviation and the subsequent control measures to manage the risk. All deviations must be accepted by NAPG HSER Manager and NAPG Project Director.

Falling objects are an issue on all our projects where we have work at height

2.0 ROLES AND RESPONSIBILITIES

The **NAPG Construction Manager** has overall responsibility for establishing and ensuring compliance with this procedure.

The **NAPG HSE staff** is responsible for implementing and/or monitoring activities associated with this procedure.

It is the responsibility of all **contractor management** personnel to enforce this procedure and of each employee to follow it.


It is the responsibility of **all workers** to work within the requirement of this procedure and its intent and communicate to supervision any discovered real or perceived non-compliance.

3.0 DEFINITIONS

There are four significant definitions relating to dropped object prevention. Of this there are two dropped object prevention systems: Primary and Secondary.

3.1 Primary

Primary dropped object prevention systems cover direct methods to prevent dropped objects and can include tool attachment points, tool lanyards, tool holsters, and accessories.

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3.2 Secondary

Secondary dropped object prevention systems are indirect methods that help protect workers and other people from being injured from a potential falling object. This includes safety nettings, toe boards and restricted access areas that eliminate traffic to hazardous areas of the site. There are two types of falling objects.

3.3 Static Dropped Object

An object that falls from its previous location under its own weight (gravity). This occurs without any applied force. Ex. failure or drop caused by corrosion or vibration A hammer left on roofs edge.

3.4 Dynamic Dropped Object

An object that falls from its initial position due to an applied force. Ex. Swing or struck by tools, collisions involving moving equipment or loads, entanglement and toppling of stored materials, machinery and or equipment, dislodged tools or equipment.


4.0 REQUIREMENTS

4.1 Adoption

NAPG will adopt this dropped object prevention standard in all work environments. These requirements will be clearly identified in contract documents and promoted by NAPG senior leadership on project execution expectations.

4.2 Design

Effort is to be made during the planning and design phase to identify potential for dropped objects and to eliminate or at minimum reduce the opportunity for dropped object to occur through design.

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4.3 General

Dropped objects are a considerable risk to all projects and personnel.


Primary Hazards related to dropped objects must be identified during the planning stages of a contract and identified at a high level in the scope of work, as well as during front line planning and execution of all field work activities.

Use appropriate risk assessment tools (PMRA, Work Method JHA) to determine the potential of harm and to allow development of appropriate control measures.


Utilize visual inspections, 20-20-20 and FLHA to verify controls adequate to task at hand.

When evaluating potential consider:

- a) Hand tools being used at heights
- b) Hand tools/equipment/ materials stored or left behind after working at height
- c) Operations conducted at height
- d) Use of Derricks, work platforms, cages
- e) Equipment mounted at a height that, following contact, vibration or environmental conditions, could fall, i.e., piping, lights, cameras, rigging gear, etc.
- f) Temporary equipment at height
- g) Where personnel are working on a level directly below another work site
- h) Where personnel are working adjacent and below levels on a work site that have unprotected or in completed edges openings etc.
- i) Hoisting and Lifting operations, the use of helicopters and cranes

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- j) Unsecured building materials like siding, sheeting, plywood, and decking panels stored in outdoor overhead environments that could be subject to wind
- k) Environment hazards Example Ice buildup, spalling fall rock from overhead
- l) Tool tethering of tools

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After Identifying the Hazard, effective risk control measures must be determined, implemented and monitored in the following order of priority:

- a) Preventing an Object from Falling
- b) Protecting a Person After an Object Has Fallen
- c) Use of Personal Protective Equipment
- d) What creates dropped objects?


Primarily human action and human error

However, the following have direct line impact in increasing the potential of dropped objects;

- a) Lack of Planning, and Lack of proper risk assessment
- b) Complacency of those completing a task, short cuts taken
- c) Poor housekeeping and storage of tools and materials
- d) Scrap and Debris left behind
- e) Improperly secured, and or inappropriate loads and containment
- f) Improper tool selection, lack of lanyards
- g) Poor design of work platforms
- h) Materials handling

4.4 Dropped Object Prevention Plan


A qualified Contractor shall develop the Site-Specific Dropped Object Prevention Plan. In addition, a pre-construction coordination meeting and pre-mobilization or pre-activity site inspection(s) shall be held between the Contractor and NAPG Construction Lead, and others as determined by scope of work, such as the project engineer, operations and other before the start of field activity. The purpose of such conference(s) is to develop and review the site-specific prevention plan.

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4.5 Components of a Site-specific Dropped Object Prevention Plan

In developing a site-specific plan, a primary contractor considers the following elements:

- The sequence of activity, developed in coordination with the controlling contractor, that includes the following:
 - a) A description of the primary controls and procedures including the following
 - b) Training
 - c) A work method-based Job Hazard Analysis (or sections based on dropped object prevention) shall be used to sequence the execution and identify the primary hazards.
 - d) Material deliveries/handling;
 - e) Integration in working at height plans
 - f) Equipment selection and use;
 - g) Installation of netting or temporary decking and hand rail requirements
 - h) Control zones and barricading and signage
 - i) Material staging, storage, containment, securement (ex. sea cans, fenced areas, buildings, controlled accesses), lay downs; and
 - j) Coordination with other trades and construction activities
 - k) Site specific plan is to be signed and dated by the contractor qualified person(s) responsible for its preparation, modification and execution.

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5.0 PROCEDURE

5.1 Training

Training shall be completed by all employees who may create or be exposed to dropped objects while on the job.

Effective dropped objects prevention requires training and awareness for front line workers and their supervision. Provide worker education on the risks and outcomes of dropped objects and provide them with how they can minimize that risk. At a minimum training will encompass this procedure and the control measures identified in the work method JHA.

Employers are responsible to ensure appropriate training occurs.


Training to include

- a) Hazards and Risks of dropped objects in the workplace.
- b) Proper equipment selection and use
- c) Work method JHA and procedure requirements to prevent dropped objects
- d) Application of primary and secondary drop prevention systems
- e) Proper storage and handling of materials at heights
- f) Reporting requirements for dropped objects and potential for dropped objects

5.2 Prevention

It is the responsibility of every employer, and contractor to ensure that when workers are required to work in an area where they may be in danger from a falling object, that an adequate overhead barrier be installed or that hazardous areas be enclosed with hard barriers, notification tags and signage or some other effective physical means to prevent workers entering these areas.

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The procedure for addressing this potential hazard at the Project is as follows:

A well developed and thorough Work method JHA is accepted and in use that includes the controls for dropped object prevention Prior to allowing workers to work in the area, which includes how each Contractor Supervisor and his crew will:


Prevent falling or dropped objects;

Prevent being struck by falling or dropped objects.

- a) Modularize and assemble at ground level, hoisting completed sections into place whenever possible to eliminate risk.
- b) All working at height and hoisting/ lifting activities shall include visual inspections of the immediate work environment (and above and below) by workers as part of the FLHA process with emphasis on looking for potential for dropped objects, at the start of the day's activity, at least once during the shift and at the completion of the shift or task.
- c) All Tools used while working at height shall be equipped with tool lanyards. The lanyards must always be used where there any is a potential for dropped objects See Section 5.2 for further details.
- d) Use tool lanyards, tool tethers, tool pouches, tethering devices, holsters, tool buckets and other drop containment devices to secure tools and other equipment during work at height activities. See Section 5.2 for further details
- e) Reasonable secondary containment shall be established even in situation where tool lanyards are in use as an added level of protection. Examples Netting, decking(scaffold), covering of open grating, toe boards on scaffolds and completed work platforms with all openings covered.

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- f) Toe boards, Kickboards and handrails should be fixed on scaffolding, platforms and walkways. By using additional closed mesh solutions, plywood's or other solid surface materials, coverage can be provided for all the gaps through which items can potentially fall.
- g) Utilize safety mesh or designed debris/ barrier netting in areas underneath equipment, walkways, platforms and along building/structure perimeters to prevent the drop of materials to a lower level.
- h) When possible, lower the working platform to the ground. Perform all work on a structure at ground level and then lift it into position once complete rather than taking the tools and equipment to height.
- i) Consideration is to be given to work activities that while are not working at height are working adjacent to guard rails, roof edges, and opening of any sort that could create a dropped object. These activities shall include as part of their risk assessment reasonable level of controls to protect from injuries and damage related to dropped objects.
- j) Storage of small parts hand tools and otherwise loose materials like bolts shall be secured in Kuny leather bottom canvas bucket type bags that themselves are secured from drop or upset.
- k) All scrap and debris shall be collected and stored in approved containers and not left to collect on work platforms floors or decks. These materials are to be returned to ground level/ surface at minimum daily unless otherwise agreed by the NAPG construction team in work method JHA.
- l) Only the reasonable and necessary amount of storage and prestaging of materials and tools shall occur in elevated work locations without completed floors/ roofs and or walls.

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- m) All hoisted materials shall be inspected for loose materials/ potential dropped objects and secured prior to hoisting/ lifting.
- n) Only suitable (designed and manufactured for purpose) scrap bins, lifting cradles, bottle cages, job boxes etc. shall be hoisted/ raised to elevated positions. Supervision are responsible to ensure this expectation is met. These lifts are to be secure from upset and all materials carried prevented from dropping/ falling. Equipment is not to be repurposed without explicit consent from the engineer/ designer and or manufacturer for this task.
- o) Plywood or other physical barriers can be used to extend/ reinforce the protection from toe boards, guard rails, parapets, curbs or partial walls etc.

In addition to the JHA, each Contractor Supervisor and workers will participate in the daily line up meeting to identify all risks while paying special attention to the potential of dropping or having objects fall into work areas below, when applicable.

5.3 Tools

5.3.1 Tool Attachment Points


Some tools have a built-in attachment / connection point by the manufacturer. If the tool does not have a manufactured attachment / connection point, the tool must be assessed and if required, an engineered attachment / connection point installed. Attachment points must be tested, and load rated.

5.3.2 Tool Belts

Tools that are housed in a tool belt must be secured so they do not pose a drop hazard. Before removing the tool from the belt, it must be tethered to a structure, or if less than 2.27 kg (5lbs) to the employee.

5.3.3 Tool Buckets

Tool buckets must be capable of closing or securing the contents to prevent spilling. All buckets must be tested, and load rated by the manufacturer.

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5.3.4 Tool Holsters and Pouches


Tools and items housed in tool holsters and pouches must be secured so they do not pose a drop hazard. Before removing the tool from the holster or pouch it must be tethered. All holsters and pouches must be tested, and load rated by the manufacturer.

5.3.5 Wristbands

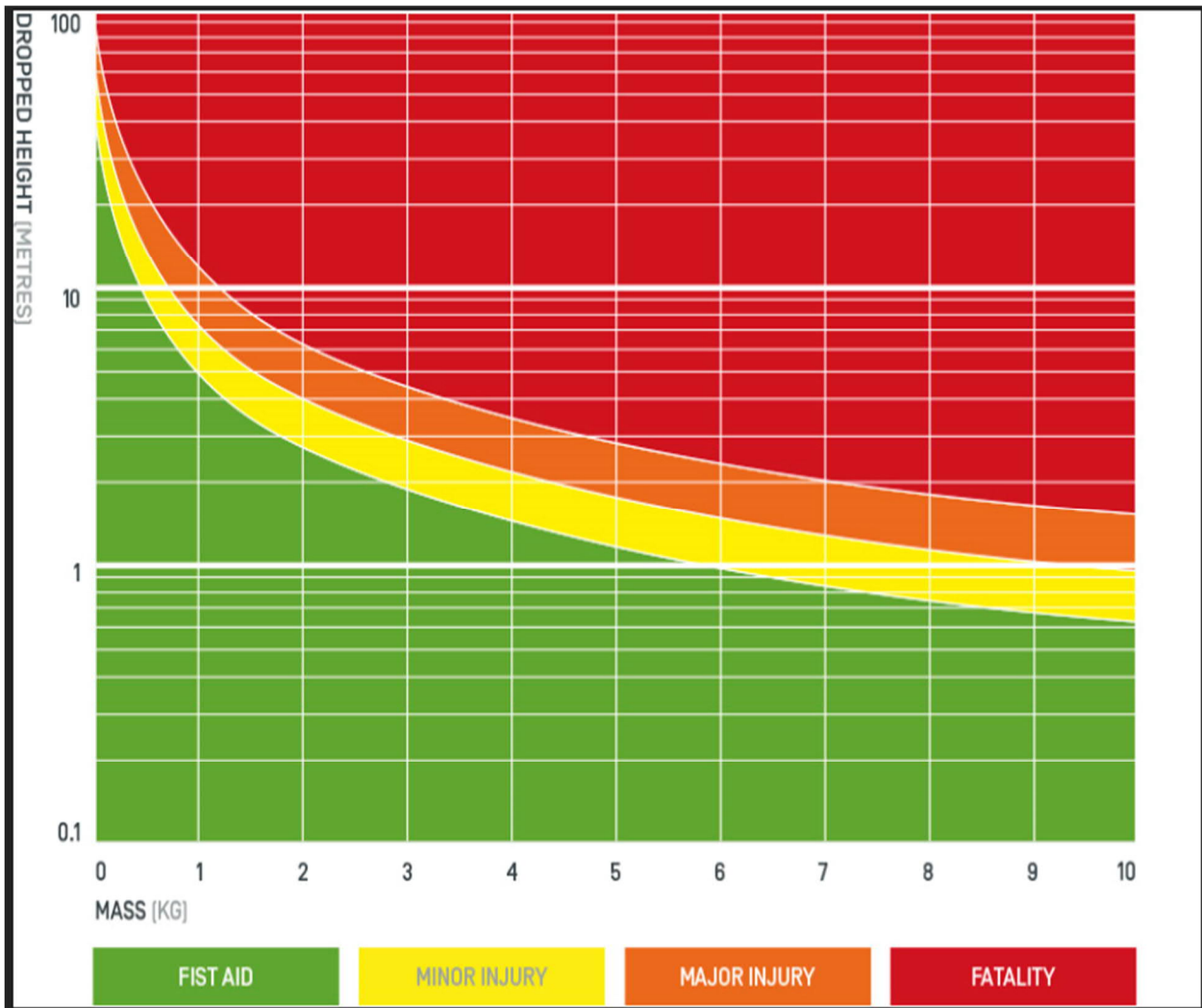
All wristbands must be tested, and load rated by the manufacturer. Wristbands shall only be used for tools weighing less than 2.27kg (5 lbs)


5.3.6 Hard Gear

tethers shall be used on head gear where there is a risk of the head gear falling.

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6.0 DROPPED OBJECT CALCULATOR



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7.0 REFERENCES

NAPG-SAF-SPI-0009	Working at Heights
NAPG-SAF-SPI-0012	Dropped Objects Prevention
NAPG-SAF-SPI-0016	Cranes and Lifting
NAPG-SAF-SPI-0011	Permit to Work
NAPG-SAF-SPI-0018	Scaffolding
IPT-VBME-0000-72-PCD-0019	VBME falling objects prevention procedure.

DOCUMENT END