Safe Working At Heights

SHE Conference 2017

Motivating and Engaging Airport Community To Achieve SHE Excellence

Sama-Sama KL International Airport Hotel

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NIOSH MALAYSIA

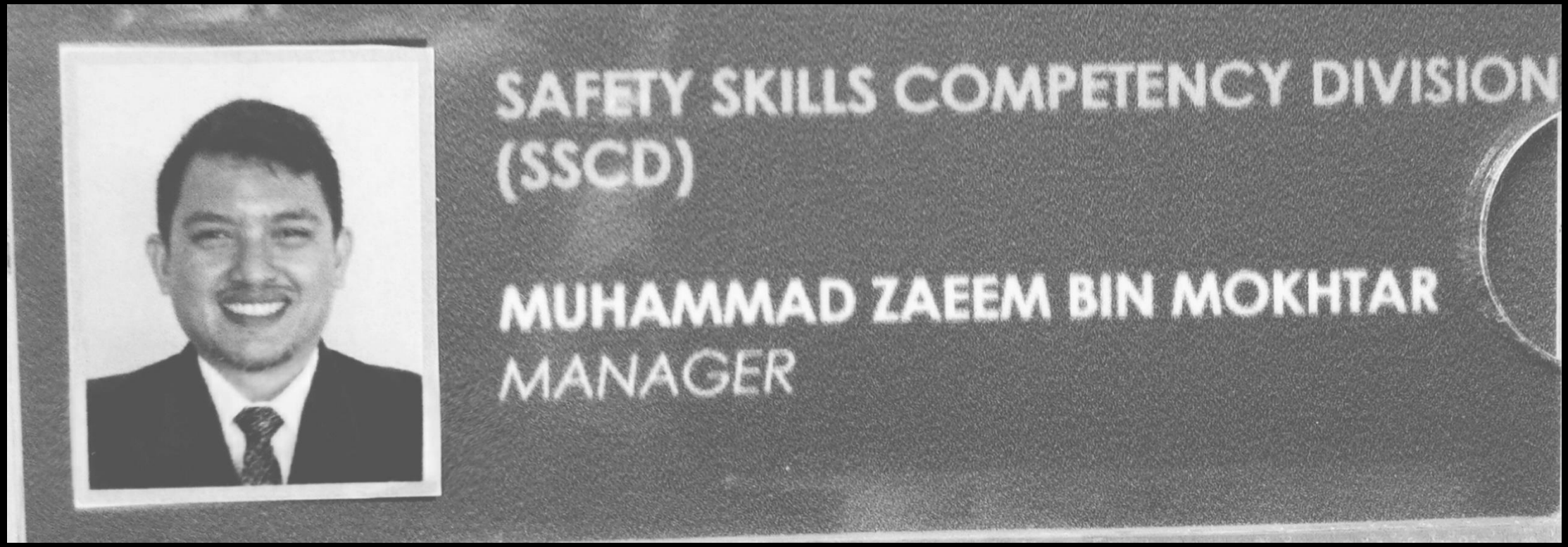
Scope

The scope of this presentation is aimed to reduce risks for tasks performed at heights by means of a safety and health control measure that shall be adhered to at all times.

Objectives

By the end of this presentation, the delegates shall be able to :

1. Understand and explain the principles of manoeuvring at heights
2. Understand the importance of work at heights risk assessment
3. Understand the legal requirement for fall prevention at workplaces


SAFETY SKILLS COMPETENCY DIVISION
(SSCD)
MUHAMMAD ZAEEM BIN MOKHTAR
MANAGER


WELCOME TO GURUNG CO-OPERATIVE
GUEST HOUSE
and Restaurant
Machhapuchhre Basecamp
NIOSH
NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH

CASE STUDY 1

- Date : August 24, 2017 Time : 1430 hrs Location : Johor
- Task : Scaffolding platform modifications

A scaffold erector was carrying out modifications to a completed scaffold platform that was erected for installation of the tank domed roof. After cutting the tie-wire and moving some of the deck boards, the scaffolder stood up to explain to the supervisor why he needed to adjust the platform. At that point, one of the loose deck boards that he had relocated twisted under his foot causing him to fall 19 meters to ground. Ambulance and medical team was mobilized to the site and the doctor on duty confirmed that the scaffold erector died at the scene as a result of his injuries.

CASE STUDY 1 (cont)

- Findings
  - The deceased lost his balance and fell to ground.
  - The deceased stepped on a loose scaffold deck board.
  - Failure to identify associated hazards for the task.

CASE STUDY 1 (cont)

- Solution
  - Ensure **100%** tied-off of body harness at all time.
  - Check and ensure that scaffold decks are properly **secured**.
  - Scaffolders involved in modification work need to remain fully **aware** of the hazards involved.
  - Conduct thorough **inspection** of site conditions before scaffold modification work commences.
  - Conduct **pre-task** Hazard Identification (HITS) Talk before all activities.

CASE STUDY 2

- Date : August 15, 2017 Time : 0850hrs Location : Johor
- Task : Pipe fitting

While fitting up a pipe, the pipe dropped onto a scaffold platform, two workers were injured

- Findings
  - Improper load securing method
  - No proper assessment on hanging load
  - Improper on site hazard identification

CASE STUDY 2 (cont)

- Solution
  - All loads have to be calculated properly prior to selection of rigging equipment
  - Supervisor to confirm and advise riggers on proper rigging method
  - Risk assessment to be done on site and cascaded to all team member

CASE STUDY 3

- Date : August 20, 2017 Time : Unknown Location : Terengganu
- Task : Telecommunication tower maintenance

Ketua Polis Daerah Hulu Terengganu, Deputi Superintendan Mohd Adli Mat Daud berkata, Mohamad Zakery Zainul Abidin, 39, disahkan meninggal dunia selepas dibawa turun dari menara berkenaan dengan bantuan anggota Jabatan Bomba dan Penyelamat Malaysia (JBPM), kira-kira 10 malam tadi.

Menurutnya, pihaknya dimaklumkan lelaki tidak sedarkan diri di menara terbabit pada 5.15 petang oleh orang awam.

CASE STUDY 3 (cont)

"Difahamkan, mangsa yang berasal dari Sungai Petani, Kedah itu bersama dua rakannya menjalankan kerja penyelenggaraan kabel di menara terbabit.

"Pada awalnya mangsa dikatakan naik ke puncak platform pada ketinggian 76 meter sebelum tali pinggang keselamatannya terjatuh ke platform nombor dua.

"Lelaki berkenaan dikatakan turun ke platform nombor dua itu pada ketinggian 42 meter untuk mengambil tali pinggang berkenaan sebelum dia kelihatan lemah secara tiba-tiba," katanya.

Menurutnya, rakan mangsa yang berada di bawah kemudiannya bergegas memanjat ke platform nombor dua untuk membantu dan lihat mangsa sudah berada dalam keadaan lemah dan tidak bermaya.

CASE STUDY 3 (cont)

Katanya, rakan mangsa kemudiannya cuba memberi bantuan kecemasan sebelum mangsa tidak sedarkan diri lalu mereka memaklumkan kejadian berkenaan kepada pasukan penyelamat.

"Kerja menyelamat bermula kira-kira 9 malam oleh empat anggota Balai Bomba dan Penyelamat Hulu Terengganu dibantu tujuh anggota Balai Bomba dan Penyelamat Kuala Terengganu.

"Operasi membawa turun mangsa dari menara terbabit selesai pada 10.07 malam dan mangsa dibawa ke Hospital Hulu Terengganu untuk bedah siasat. Kes berkenaan diklasifikasikan sebagai mati mengejut," katanya.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CASE STUDY 3 (cont)

Findings

1.

2.

3.

Solutions

1.

2.

3.

PLEASE FILL IN THE BLANKS, FEEL FREE TO ADD IN MORE NUMBERS….

SOLUTION

FUNDAMENTALS OF MANEUVERING AT HEIGHTS

1. FALL ARREST
2. WORK RESTRAINT
3. WORK POSITION

4. **100% TIE OFF** ON EVERYTHING ATTACHED

FALL ARREST

A system designed to support and hold a person

in the event of a fall.

Guidelines for the Prevention of Falls at Workplaces 2007

Best Practice Guidelines For Working At Height In New Zealand 2014

WORK RESTRAINT

Work restraint systems are used to stop a person from reaching zones where the risk of a fall exist

IRATA International code of practice for industrial rope access

Travel Restriction System: A system used to prevent a person reaching a place from where a fall is possible.

Guidelines for the Prevention of Falls at Workplaces 2007

Total Restraint System : This system protects a user from approaching an unprotected edge, thereby preventing a free fall from occurring.

Best Practice Guidelines For Working At Height In New Zealand 2014

WORK POSITION

A system designed to provide a primary means of support and restraint to allow work to be carried out in reasonable comfort

Guidelines for the Prevention of Falls at Workplaces 2007

Work positioning systems enable a person to work supported in a harness under tension in a way that a fall is prevented. Generally the arrangement allows for the worker to maintain a stable position and to work hands-free while completing a task

Best Practice Guidelines For Working At Height In New Zealand 2014

a) allow access to the workplace, egress from it and to support the user, either partially or fully, at the place of work;

b) protect the user against a fall from a height

IRATA International code of practice for industrial rope access

100% TIE OFF

Minimum of one attachment to an anchor point while working on any structure by means of a fall arrestor

or

Minimum of two attachments to separate anchor points while working on rope (rope access) by means of a fall arrestor and ascending or descending device.

ANCHOR POINT

point on an anchor device or structural anchor used for the connection of personal fall protection equipment

IRATA International code of practice for industrial rope access

LEGISLATION

FACTORIES AND MACHINERY (SAFETY, HEALTH AND WELFARE) REGULATIONS 1970

Regulation 12. Working at a height.

Where any person is required to work at a place from which he will be **liable to fall** a distance of **more than ten feet**, **means shall be provided to ensure his safety** and such means shall where practicable include the use of safety belts or ropes

LEGISLATION

FACTORIES AND MACHINERY (SAFETY, HEALTH AND WELFARE) REGULATIONS 1970

Regulation 41. Penalty.

Any person who commits an offence against these Regulations for which no corresponding penalty is provided by the Act, shall on conviction be liable to a **fine not exceeding one thousand ringgit**.

STANDARD OPERATING PROCEDURE

HQ/SOP/SHE/06

WORKING AT HEIGHTS PROCEDURE

5.2 Prevention of falls

5.2.1 Provision of falling arrestor devices shall be made to prevent person falling if work is to be carried out within 2 meters of any edge on a new or existing structure from which any person could fall two meters or more.

5.2.2 The use of full body harness is required whenever there is a situation where there is inadequate fall protection and having consequences of falling.

5.2.3 Full body harness shall be anchored to a secured, stable and sturdy point.

STANDARD OPERATING PROCEDURE

PENALTY OF NOT COMPLYING TO STANDARD OPERATING PROCEDURE

OSHA 1994 SEC 15

PENALTY OSHA 1994 SEC 19

OSHA 1994 SEC 24 (1)

PENALTY OSHA 1994 SEC 24 (2)

STANDARD OPERATING PROCEDURE

HQ/SOP/SHE/06

WORKING AT HEIGHTS PROCEDURE

5.3 Control measures

5.3.1 Each working at height task shall be accompanied with Permit To Work(PTW) and HIRARC assessment. *Refer to SOP/OP/08 Controls of Contract Works in Airport and UGHIRARC/MAHB/09 User Guide for Hazard Identification Risk Assessment and Risk Control.*

STANDARD OPERATING PROCEDURE

PENALTY OF NOT COMPLYING TO STANDARD OPERATING PROCEDURE

OSHA 1994 SEC 15

PENALTY OSHA 1994 SEC 19

OSHA 1994 SEC 24 (1)

PENALTY OSHA 1994 SEC 24 (2)

RISK MANAGEMENT

the total procedure associated with identifying a hazard, assessing the risk, putting in place control measures, and reviewing the outcomes.

Guidelines for Hazard Identification, Risk Assessment and Risk Control 2008

A process used to ensure workplace health and safety. The process has the objective of **eliminating or minimising the risk** of harm which people may be exposed to at a workplace or from work activities.

Example

OHSAS 18001:2007 (Occupational Health and Safety Assessment series)

RISK MANAGEMENT

HOW??

- Hazard Identification
- Risk assessment
- Health & Safety Policy
- Manual
- Procedure manual

RISK MANAGEMENT

NON COMPLIANCE CONSEQUENSES?????

1.
2.
3.

PLEASE FILL IN THE BLANKS, FEEL FREE TO ADD IN MORE NUMBERS….

HIRARC

a systematic and objective approach to assessing hazards and their associated risks that will provide an objective measure of an identified hazard as well as provide a method to control the risk

Guidelines for Hazard Identification, Risk Assessment and Risk Control 2008

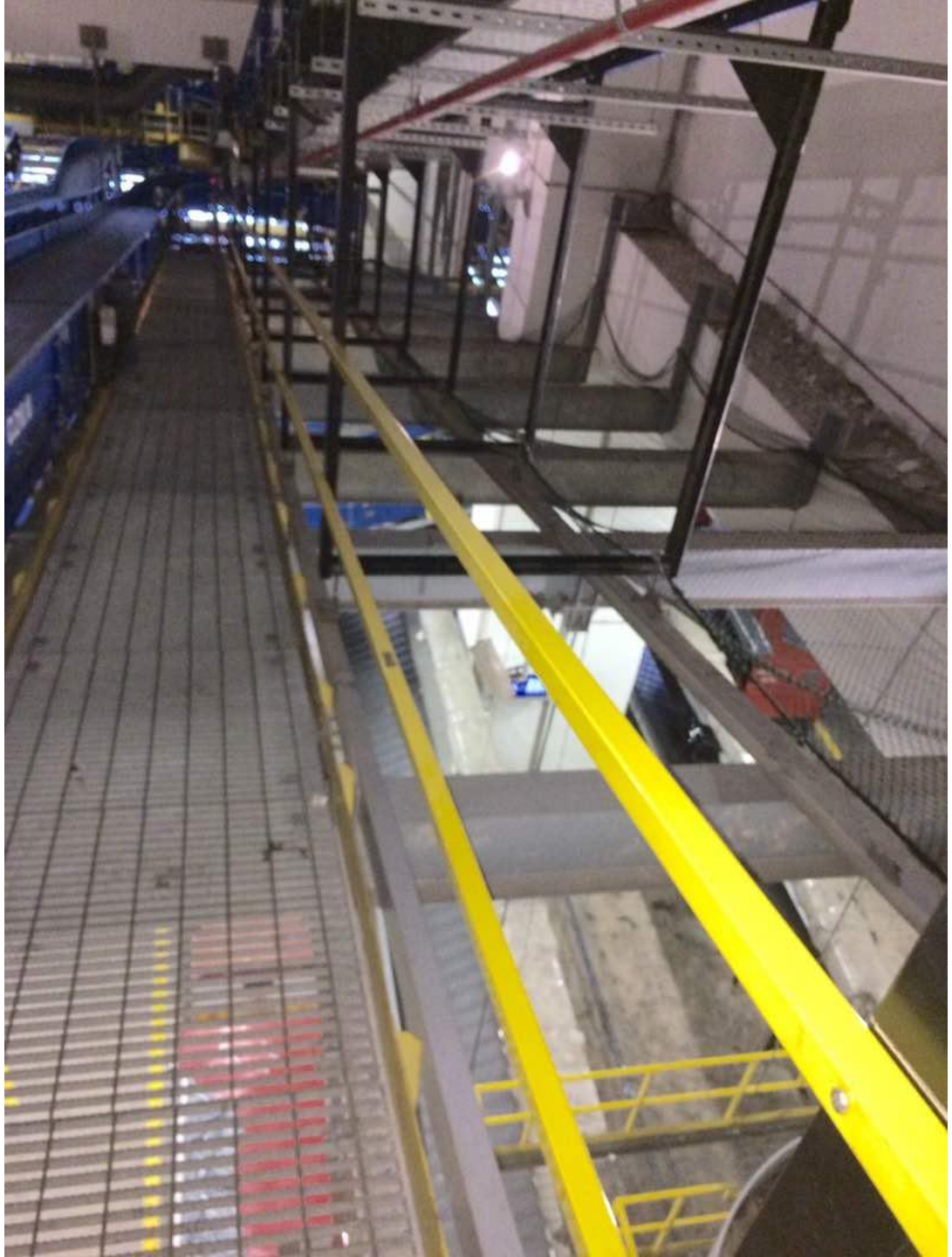
HIRARC

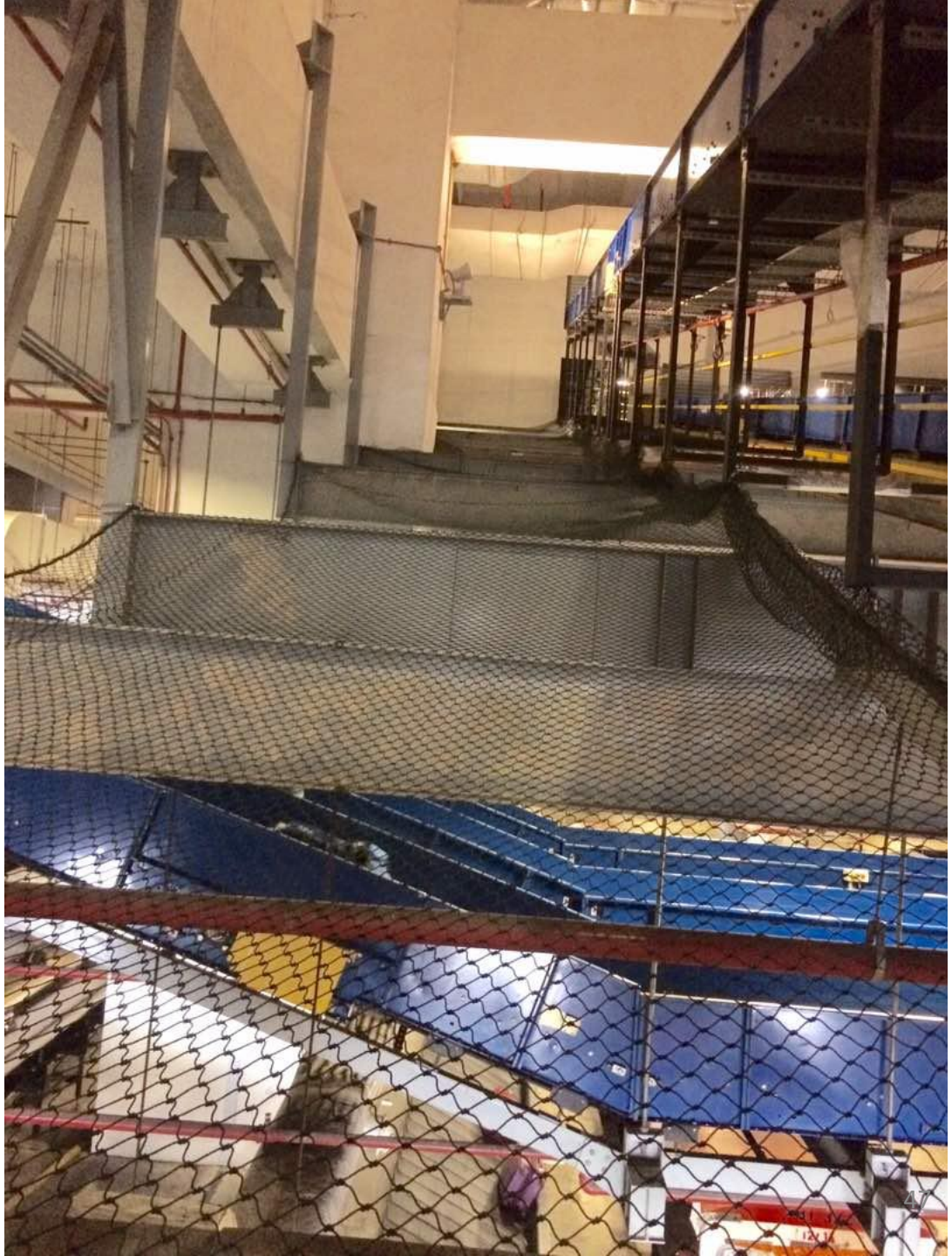
Purpose

a. to identify all the factors that may cause harm to employees and others (the hazards);
b. to consider what the chances are of that harm actually be falling anyone in the circumstances of a particular case and the possible severity that could come from it (the risks); and
c. to enable employers to plan, introduce and monitor preventive measures to ensure that the risks are adequately controlled at all times.

Guidelines for Hazard Identification, Risk Assessment and Risk Control 2008


SAFETY
FIRST
WORK
SAFELY





CASE STUDY 4

CASE STUDY 4

What happened

An employee was wearing his safety harness too loose. At the time of the fall, it took some time to rescue him from his fallen position. Due to the fact his harness was not tight fitted to the body, he was hanging in his leg supports which was squeezing his scrotum resulting his testicles were pushed out. It took a 4 hour surgery to close the wound. Less visible on the pictures are two (on both sides) of the scrotum horizontal lacerations of the straps. Unknown at this point of time whether the damage is irreversible, but you can imagine the pain he was going thru while hanging in his "too loose" fitting harness.

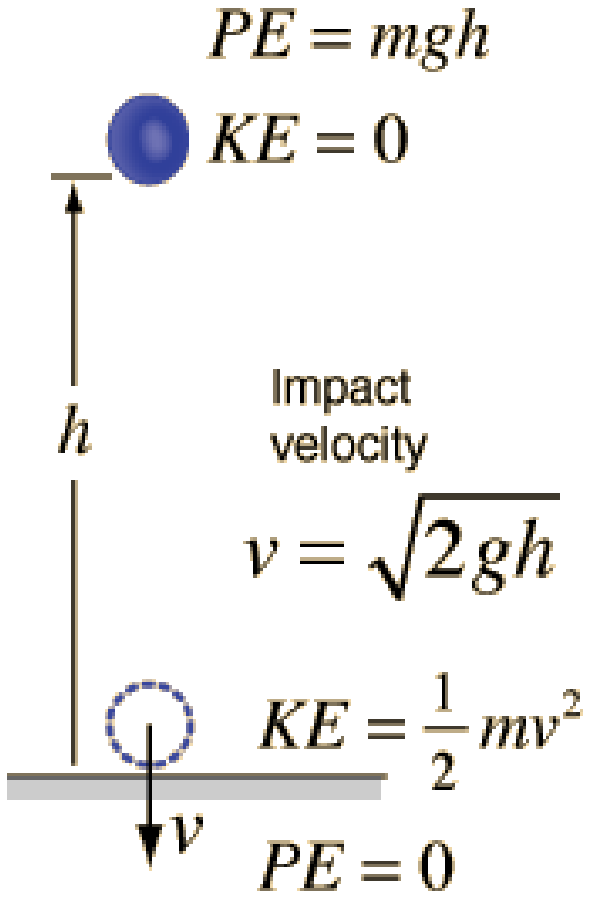
CASE STUDY 4

CONCLUSION 1 of 2

1. Each tasks at heights requires a risk analysis before performing the work.
2. Workers are required to adhere to legislation and/or SOP; which ever is more stringent.
3. All workers and operation need to be supervised.

CONCLUSION 2 of 2

- WHAT ARE THE RISK ACTUALLY FACED BY WORKERS AT CURRENT WORKPLACE ?
- HOW MUCH OF IMPACT OF THE HARM CAN WE ENDURE?



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THANK YOU