Continual Improvement Plan

SOBHA CARNATION – PUNE

INDEX LIST

SOBHA DEVELOPERS Ltd

Hands on Training – Basic Fire Fighting

Department of Quality Safety & Technology

Trainer

A. VIJAY.

Trainees

1. All staff of Sobha Carnation
2. All Tradesmen
3. Security
4. All Contractor & Respective workers

Module Head: Bharamana Gouda

Site Name: Carnation, Pune

Module # IV

Date: 24th Feb 2009

The training session started from 17:00 hrs & concluded at 19:00 hrs

Contents:

1. Introduction

It is a known fact that the entire world is made up of five great elements, The Earth, the Water, **the Fire**, the Air & the Ether.

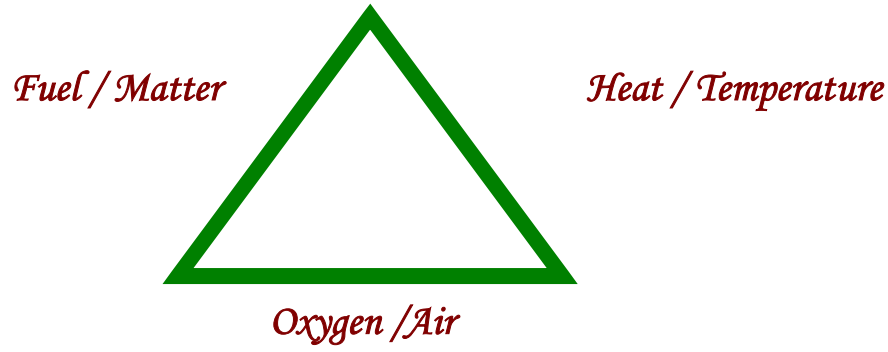
From time immemorial, fire has served man in his various domestic & industrial activities. It has helped him derive comforts from the nature to lead a life full of pleasure.

But, it is not to be forgotten that fire, when uncontrolled can bring in massive destruction to life, property, the flora & fauna & can have a terrible impact on the environment & ecological system of our planet Earth. Hence, it is very important & useful that every individual should be aware of the characteristics of fire & the ways to control & mitigate fires when they become a hazard or pose threat to any being.

1. a. Definition

Fire can be basically defined as a chemical reaction involving the consumption of oxygen resulting in liberation of heat & smoke while modifying or destroying the object it burns.

1. b. Elements of fire - the Fire Triangle



For the fire to sustain or develop, 3 important elements should be available in suitable proportions

1. ***Fuel / Matter*** *– E.g. Wood, paper, Petrol, Rubber*
2. ***Oxygen / Air*** *– E.g. The natural atmosphere*
3. ***Heat/ Temperature****:- Generally called as the Ignition Temperature or Threshold flammable limit*

The combination or the chemical reaction involving these 3 elements in suitable proportions is the resultant called ***fire****. Fire cannot occur or be sustained in the absence of any 1 on these 3 elements.*

1. c. Classification of Fire

Though the basic characteristic of fire is to destroy anything it burns up, it can be classified into 4 classes based on the source of fuel or matter it consumes. They are categorized as:-

Class	*Fuel Types*	*Examples*
A	*Fires involving solid materials, usually of an organic nature*	*Wood, Paper, Cloth, Rubber & Plastic*
B	*Fires involving liquids or liquefiable solids which are flammable in nature*	*Petrol, Diesel, Kerosene & Thinner*
C	*Fires involving active Electrical equipments*	*Short circuits, Overloading*
D	*Fires involving Metals & Chemicals*	*Potassium, Sodium & Magnesium*

2. Tools required for training

a. Wood

b. Kerosene

c. Match box

d. Fire Extinguisher

3. Step by Step procedure (With required explanation & Photograph)

3. a. Principles of extinguishing a fire

A fire can be extinguished or can be put off by removing or isolating any 1 of the 3 elements required for sustaining a fire.

Sl	Principles	Description
1	Starvation of Fuel	Isolation or removal of matter or combustibles from fire
2	Starvation of oxygen	Smothering of fire or blanketing the fire to avoid the contact of air with fire
3	Removal of Heat	Cooling the temperature of the burning material to maintain the temperature below the ignition temperature or the threshold flammable limit

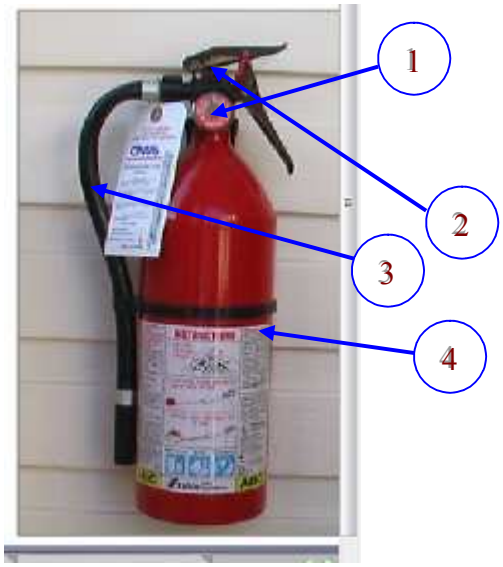
3. b. Different types of Fire Extinguisher

Fire Extinguisher is an operating device used to put out fires. Based on the above principles of extinguishing a fire, there are basically 4 types of Fire Extinguisher to combat the 4 classes of Fire.

Type of F E	Description	Class
A	Water based pressurized cans – for Wood, paper & Cloth etc	Class A Fire
B	(CO_2) Carbon-di-Oxide based fire extinguishers & Foam based fire extinguishers – for Petrol, Diesel etc	Class B Fire
C	Dry chemical powder & CO_2 based fire extinguishers – Electrical Fires	Class C fires
D	Halon or Dry chemical powder based fire extinguishers – Sodium, Potassium etc	Class D Fires

3. c. Technique of operating the Fire Extinguisher

Operating a fire extinguisher in an efficient manner is very vital since the discharge capacity of the fire extinguisher is very small (normally ranging from 20 to 26 sec) & is meant to control only small fires.



1 → Safety Pin
2 → Plunger
3 → Hose
4 → Cylinder

The universal method adopted to operate a fire extinguisher is the "P A S S "Method.

P → *Pull the safety pin / clip.*

A → *Aim the Nozzle at the base of fire.*

S → *Squeeze the trigger / plunger*

S → *Sweep from side to side*

Note: Never use "Type A" Fire extinguisher on Electrical & Flammable fires

3. d. Descriptive snaps of training imparted

Workers assembling before the safe assembly point for training

QST personnel imparting awareness regarding Fire & its characteristics

Site staff, company tradesmen & contract workers attending the training

Project Manager Mr. Dinesh addressing workers regarding the importance of Fire safety training

Start of small fire using a mixture of kerosene & wood,

Demonstrating the usage of Fire extinguisher – Pulling the safety pin

Demonstrating the usage of Fire extinguisher – Aiming the Nozzle at the base of fire

Demonstrating the usage of Fire extinguisher – Squeezing the trigger & Sweeping from side to side while aiming the Nozzle at the base of fire

4. Advantages

- *The training created an awareness regarding the destructive capabilities of fire.*
- *It helped the workers to identify the causes of fire.*
- *It helped the workers in understanding the different classification of fire.*
- *It created awareness regarding the classification of fires & the different fire extinguishers to be used for different classes of fire.*
- *The training has sent positive signals to the workers that our organization is committed to safety & health of workers.*

5. Conclusion & Recommendations

➢ Note worthy information

The majority of fire related deaths (50 – 80%) are caused by smoke inhalation. Actual flames & burns are second to smoke inhalation in the cause of death due to fires.

➢ Sincere Acknowledgements

Mr. Bharamana Gouda (Module Head) –For encouragement & approval

Mr. Syed Nasir Ahmed (Manager, Safety) – for valuable inputs & guidance

Mr. Dinesh B Saran (Project Manager) – For initiating, cooperating & making the training successful

Thank you

SOBHA DEVELOPERS Ltd

Sobha Carnation - Pune

Training on –Shifting of Casualty

Trainer

A. VIJAY.

Trainees

5. All staff of Sobha Carnation
6. All Tradesmen
7. Security
8. All Contractor & Respective workers

Module # IV

Date: 25th Feb 2009

The training session started from 17:00 hrs & concluded at 18:00 hrs

Contents:

1. Introduction

The concept of First Aid came into being during the waging of 2nd world war by a German Military Surgeon named ***Dr. Esmarch.***

1. a. Definition

First aid is the immediate help or treatment given to a victim of an accident, sudden illness or other injury before medical help is obtained using available materials near by.

1. b. The Aims Of First Aid Are

- *To preserve life.*
- *To promote recovery.*
- *To prevent further damage.*
- *Quick transport of casualty to a medical facility.*

1. c. Golden Rules Of First Aid

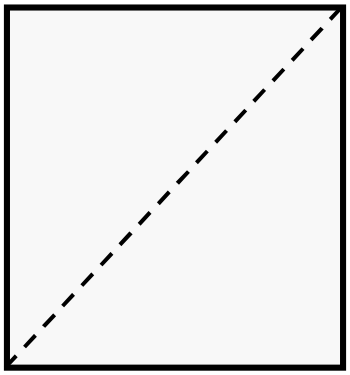
- *Assess, make safe, and get help.*
- *A. B. C. Rule (A- Airway, B- Breathing, C- Circulation).*
    1. *Maintain clear airway.*
    2. *Check breathing – if stopped, apply artificial respiration.*
    3. *Check pulse – if absent, give cardiac compression.*
- *Stop or control bleeding.*
- *Treat for shock & its cause.*

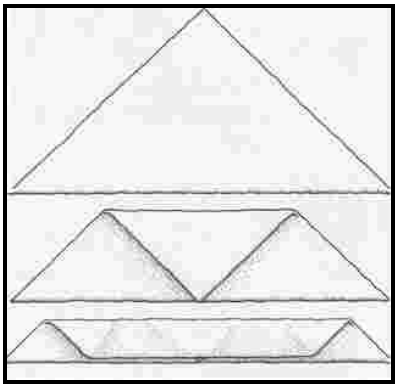
- *The recovery position for unconscious breathing casualty.*
- *Arrange to transport casualty to hospital.*

2. Purpose

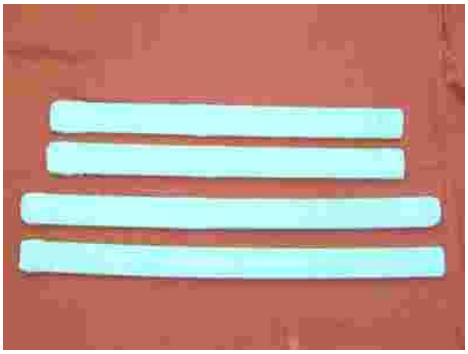
The purpose of this training is to make the masses aware of the basic procedures to be followed for an accident / victim of illness etc. This section of the training will deal only with providing support & immobilizing a victim of fracture & shifting the casualty to the Emergency vehicle or the nearest hospital since, Lot of valuable time is lost in securing the victim & shifting the victim to the hospital. This training is not intended to give full knowledge regarding the First Aid procedures but deals only with securing & shifting the victim to a safe place away from any imminent dangers which can save a life in an Emergency situation.

3. TOOLS REQUIRED FOR TRAINING

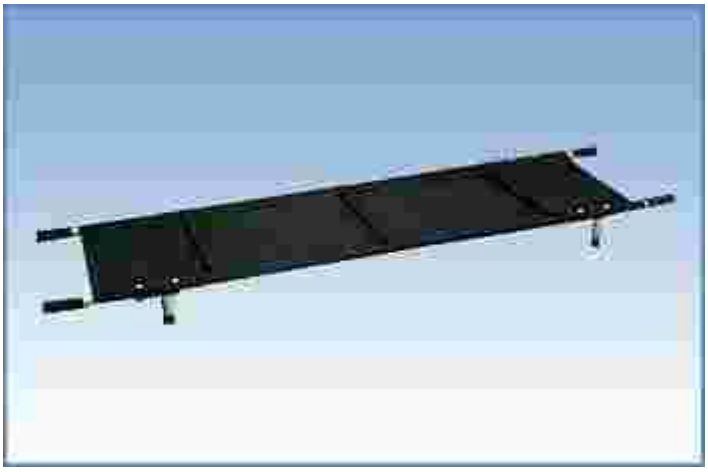




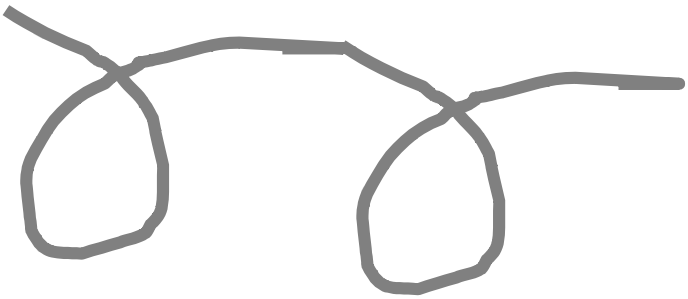
- *1 Sq mtr white cotton cloth (for Bandage)*
  - *A 1 mtr white cloth can be cut diagonally to make it into 2 triangular bandages.*



- *Splints – pieces of wood to secure fractured bones*

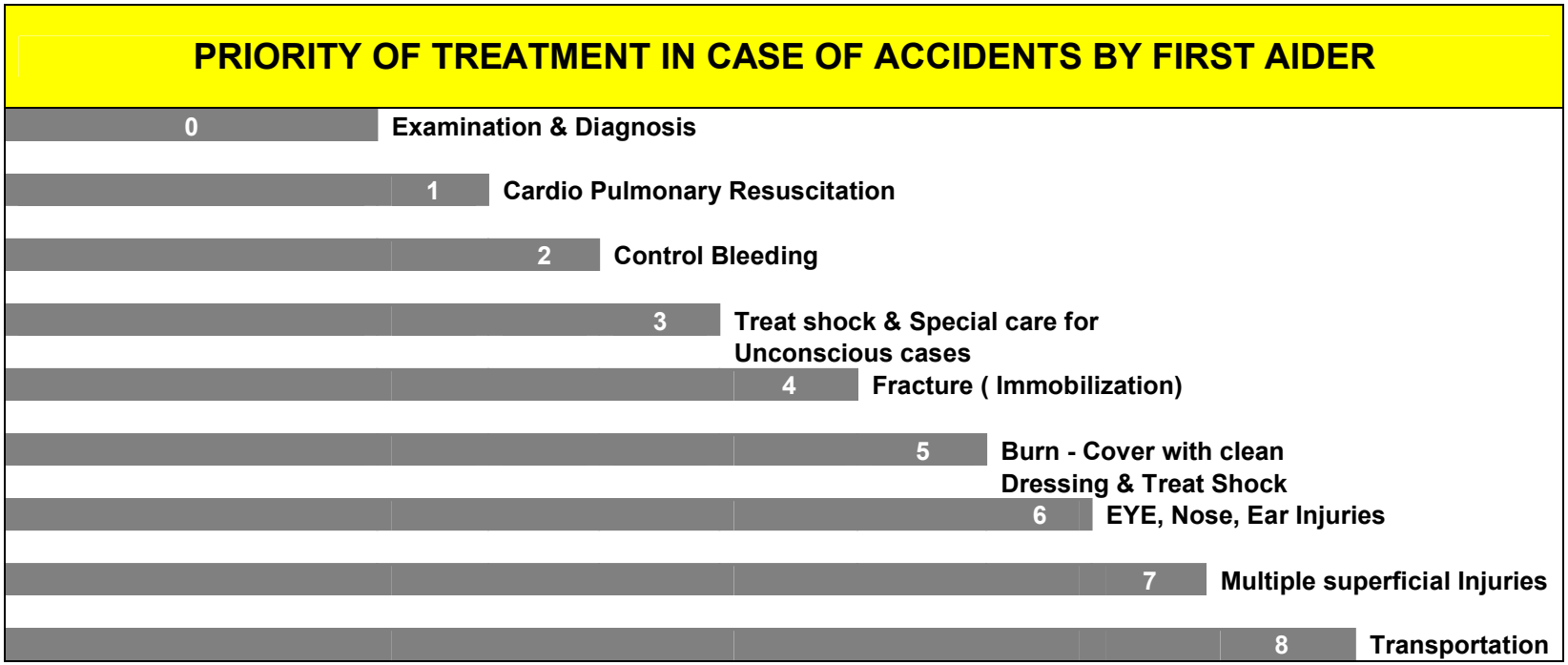


- *Stretcher – to shift casualty / victim away from danger*



- *Strings – Cord/ Belt/ Kerchief/ Rope,*

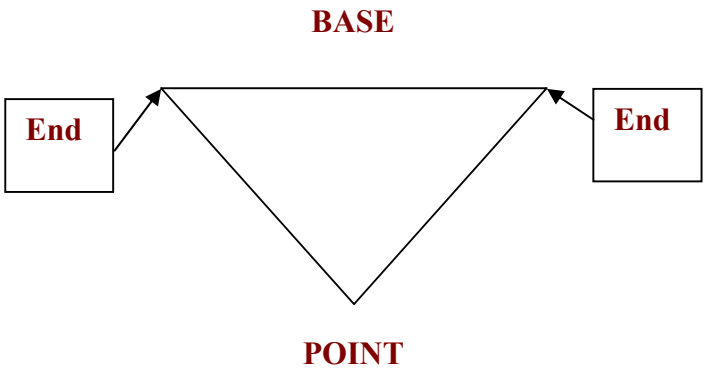
4. PRIORITY CHART OF TREATMENT



This section of training will deal only with basic immobilization techniques for Arm fractures, Skull / Scalp fracture & fracture to the Chest/ Rib region. It includes transportation of the casualty to the nearest emergency vehicle suspected for spinal cord injury.

5. Step by Step Procedure (With required explanation & Snaps)

All labourers & staff assembling at the safe assembly point & training being imparted by QST personnel



QST personnel displaying the triangular bandage formed out of a 1sqmtr cloth.

Bandages:

Made of cloth, used to control bleeding, in treating wounds, to secure dressing and splints, reduce swelling, to give support to part of the body and assist in carrying causalities.

There are 2 types: - 1. Triangular Bandage (Discussed in this session)

2. Roller Bandage

Triangular Bandage:

A triangular bandage can be made by cutting 1 meter square piece of cloth diagonally across. This gives us 2 such bandages.

Reef knot should be used. To make one, take the ends of the bandages one in each hand, place left end over right, turn the left one, place right over left, and then turn right. Reef knots are useful because, they are firm, easy & also comfortable to the casualty.

Slings → *Used to afford support & to prevent pull by upper limbs to injuries to chest, shoulder & neck*

Arm Sling → *Used to support the forearm & the hand and when there are wounds, injuries and in case of fracture of the ribs.*

5. a. Fracture of Arms

(Snap 1)

(Snap 2)

(Snap 3)

(Snap 4)

In case of an arm fracture:-

1. Keep the hand in a right angle position.
2. Use splints on both the sides of the forearm (snap 1) to secure the broken arm.
3. Place the triangular bandage in such a manner that the base is opposite to the fractured arm & the pointed end tucked inward to the fractured arm. (snap 2)

4. *Now wrap the lower end of the bandage over the fractured arm & tie it with reef knot with the other end over the shoulder (Snap 3)*
5. *The hand is secured & free from any movements which cause discomfort & pain to the casualty (Snap 4). Use safety pin to pin up any loose ends (red circle in Snap)*

5. b. Fracture of Scalp

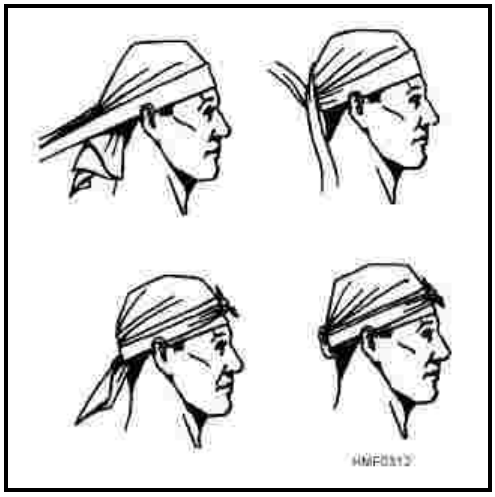
(Snap 1)

(Snap 2)

(Snap 3)

(Snap 4)

(Snap 5)



(Snap 6)

In case of a Fracture to the skull or the scalp:-

1. *Place the base upwards roll it down 3 folds to get a comfortable bandage. (Snap 1).*
2. *Place the pointed end behind the scalp (Snap 2) & the narrow end over the forehead & overlap it behind the head (Snap 3).*
3. *Now bring the overlapped end again on the forehead and secure it with a reef knot.*
4. *Tuck in the loose end behind the scaffold above the bandage & secure the bandage.(Snap 4).*
5. *The bandage is properly secured to prevent any pain & discomfort due to the injury to the head. (Snap 5).*
6. *An illustrative diagram (Snap 6) is attached for a clear & better understanding.*

5. c Fracture to the Chest / Rib

(Snap 1)

(Snap 2)

(Snap 3)

(Snap 4)

(Snap 5)

In case of Fracture to the Chest or the Rib region

1. *Place the base of the bandage at the abdomen level facing downwards & the pointed end over the shoulder as shown (snap 1)*
2. *Tie a reef knot at the ends of the base behind the back, above the hip region. (snap 2 & 3)*
3. *Now tie the loose end of the base 2 the pointed end at the shoulder level. (snap 4)*
4. *Snap 5 shows the secured bandage for fracture of the chest or rib region*

5. d Shifting of casualty suspected for Spinal cord injury

(Snap 1)

(Snap 2)

(Snap 3)

(Snap 4)

(Snap 5)

(Snap 6)

(Snap 7)

(Snap 8)

(Snap 9)

(Snap 10)

(Snap 11)

Fracture of the spine should be suspected in all cases of back injury. All such patients should be carried face upwards on a stretcher.

1. *Snap 1 shows a victim suspected for spinal cord injury. Whenever we encounter such a victim, care should be taken not to disturb his body position lest we may endanger the breaking of the back bone.*

2. *To confirm whether the person has really experienced a back bone injury, try to tickle or caress the underneath of his feet, ask the victim if he could sense the touching. If the victim cannot sense then it can be assumed that he is a victim of back bone injury*

3. *While shifting the casualty, care should be taken to support the feet, the back & the head & neck region. These regions should be adequately supported and should not be displaced while shifting the victim*

4. *Try to secure the victims feet with the help of a rope, string or belt available in the surroundings (Snap 3 & 4)*

5. *After securing both the feet with the help of belt/ rope (Snap 5) make sure that u don't tie it very tightly either*

6. *While shifting the victim on to a stretcher make sure that his hip region, & head is adequately supported by additional persons (Snap 6 & 7)*

7. *While lifting the victim ensure that your supports are balanced and no rash movements are made. Ensure that the surrounding area is clear of obstacle lest you might trip & fall which could be very serious to the victim (Snap 7 & 8)*

8. *While placing the victim on the stretcher, make sure the stretcher is on an even & hard surface, while placing his head on the stretcher support with a soft cushion or pillow to prevent any possible damage at that location (Snap 9)*

9. *Then slowly lift the stretcher evenly & shift the casualty to the nearest emergency vehicle or the hospital. (Snap 10)*

10. *Snap 11 shows the Project Manager Mr. Dinesh, addressing the gathering regarding the training program conducted*

- ***Note**: - Since the training program was limited only to shifting of the casualty & providing support. Information regarding other First aid functions is not being mentioned here.*

6. CONCLUSION

The training has been imparted so that all the audience could have a basic concept of providing support to injured parts in case of fracture which could help rescue missions & emergency evacuations to a great extent.

Since the time is limited & there are many thing that is yet to be known, this can be considered as the first step in that regard.

THANK YOU

Prepared & Witnessed By:

Vijay A
(Sr. SE)

Witnessed & Agreed By:

Dinesh B Saran
(PM)

SOBHA DEVELOPERS Ltd

Report on - Emergency Preparedness – Mock Drill

SOBHA CARNATION - PUNE

Coordinators

Dinesh B Saran – Project Manager

Manjunath SK Rao – Project Manager

Praveen Mahtre – Assistant Project Manager

Rane GN – Project Quality Engineer

Vijay A – Sr. Safety Executive.

All ERT Team Members

Module # IV **Date: 26 Th Feb 2009**

The Evacuation lasted 16 min from 12:17 hrs

Contents:

1. Introduction

The importance of an effective workplace safety & health program cannot be over emphasized. There are many benefits from such a program including increased productivity, improved employee moral, reduced absenteeism & illness, and reduced worker's compensation rates; however, incidents still occur in spite of efforts to prevent them. Therefore, proper planning for emergencies is necessary to minimize employee & property damage. After all, ***emergencies are about expecting the unexpected.***

2. Purpose

This discussion details the basic steps to handle emergencies in the workplace, these emergencies include accidental release of toxic gases, chemical spills, fires, explosions, natural disasters & trauma caused by workplace violence. This mock drill is not intended as an all inclusive safety program but rather to provide guidelines for emergencies & to analyze any short comings.

3. Planning

The plan must include as minimum, the following elements.

- *Emergency escape procedures and emergency escape route assignments.*
- *Procedures to be followed by employees who remain to perform for shut down critical plant operations before the plant is evacuated.*
- *A procedure to account for all employees after emergency evacuation has been completed.*
- *Rescue & Medical duties for those employees who are to perform them.*
- *The preferred means for reporting fires & other emergencies, and*
- *Names or regular job titles of persons or departments to be contacted for further information or explanation of duties under the plan.*

The emergency action plan should address all potential emergencies that can be expected in the workplace.

For emergency evacuation, the use of floor plans or workplace maps that clearly show the emergency escape routes and safe or refuse areas should be included in the plan. All employees must be told what actions they are to take in emergency situations that may occur in the workplace, such as a designated meeting location after evacuation, generally called the "Safe Assembly Point".

The plan must be reviewed with employees initially when the plan is developed, whenever the employee's responsibilities under the plan change, and whenever the plan is changed. A copy should be kept where employees can refer to it at convenient times.

4. Implementation

Prior to the tackling of any emergency, it is very much essential that everyone has a predefined task to perform & be prepared to execute their task properly when such a situation arises. It involves educating all the masses concerned regarding their roles & responsibilities during the crisis hour which is very critical. It is also very much essential to have a detailed list of resources to be made available like Fire extinguishers, Emergency vehicle, Medical care, Emergency & critical care contact numbers.

Constituting a team of Emergency Response Team members is very much essential & a vital necessity to handle any Emergency arising. These ERT members will have time specific responsibilities & are the core members involved in dealing any Emergency arising out of various factors.

It is not only important to have the resources available with us, but also it is very important to have full knowledge regarding their ways of operating & locations as well.

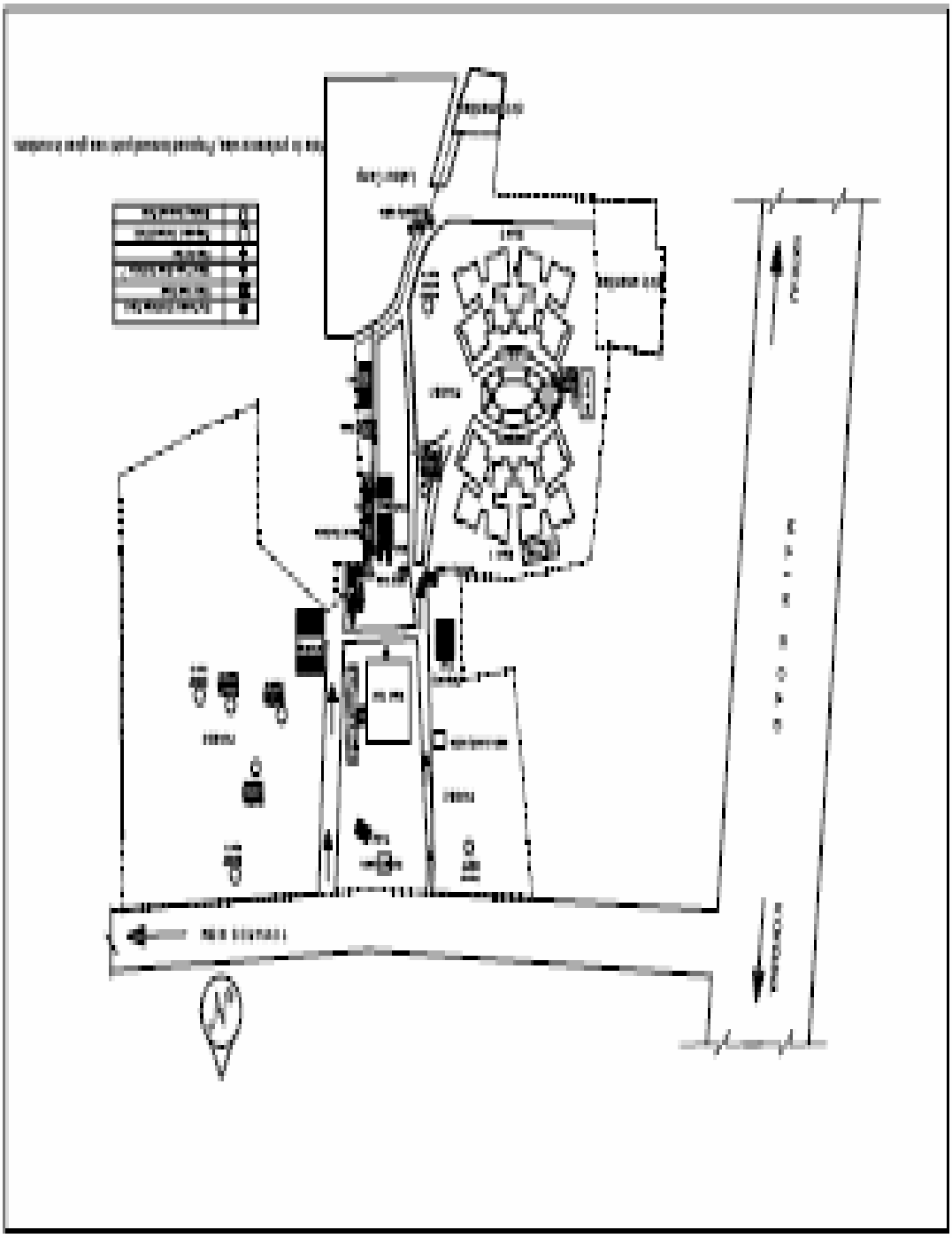
Knowledge about locations of Fire extinguishers, Emergency exits depicted in Floor plans, locations of first aid kits etc are very important to quickly address any issue arising out of these emergencies. These are preplanned & are made aware to all members of the team since these small things count in a big way to minimize the extent of loss to life & property

5. Responsibility Matrix

Names	Responsibility	Stand By
Dinesh B	Declaring Emergency & all clear signals	Manjunath
Security	Alarm Signal & Evacuation (ERT)	
Rajashekarn	Switching off – DG supply (ERT)	Ram Kumar
Prashanth	Emergency Vehicle arrangement (ERT)	Samadhan
Sudhakar	First Aid facility (ERT)	Praveen Mahtre
Ajith	Evacuation of Block 1 CD wing & Head count	Ganeshan
Raval Ravi	Evacuation of Block 1 AB wing & Head count	Jaimini
Giridhar	Evacuation of Block 2 CD wing & Head count	Security
Ravalu	Evacuation of Block 2 AB wing & Head count	Security
Ramu	Evacuation – External / basement & Head count	Shekar
Parashuram	Shifting casualty (ERT)	Sadiq
Shekar	Shifting casualty (ERT)	Vijay
Rane	Over all monitoring of the evacuation	Dinesh

Considering certain factors relevant to this project, specific responsibilities have been assigned to each member to be executed in case of emergency. They have been detailed about the importance of each action & the sequence of execution. All the labors & staff have been periodically informed regarding the evacuation procedure & assembling at the safe assembly point.

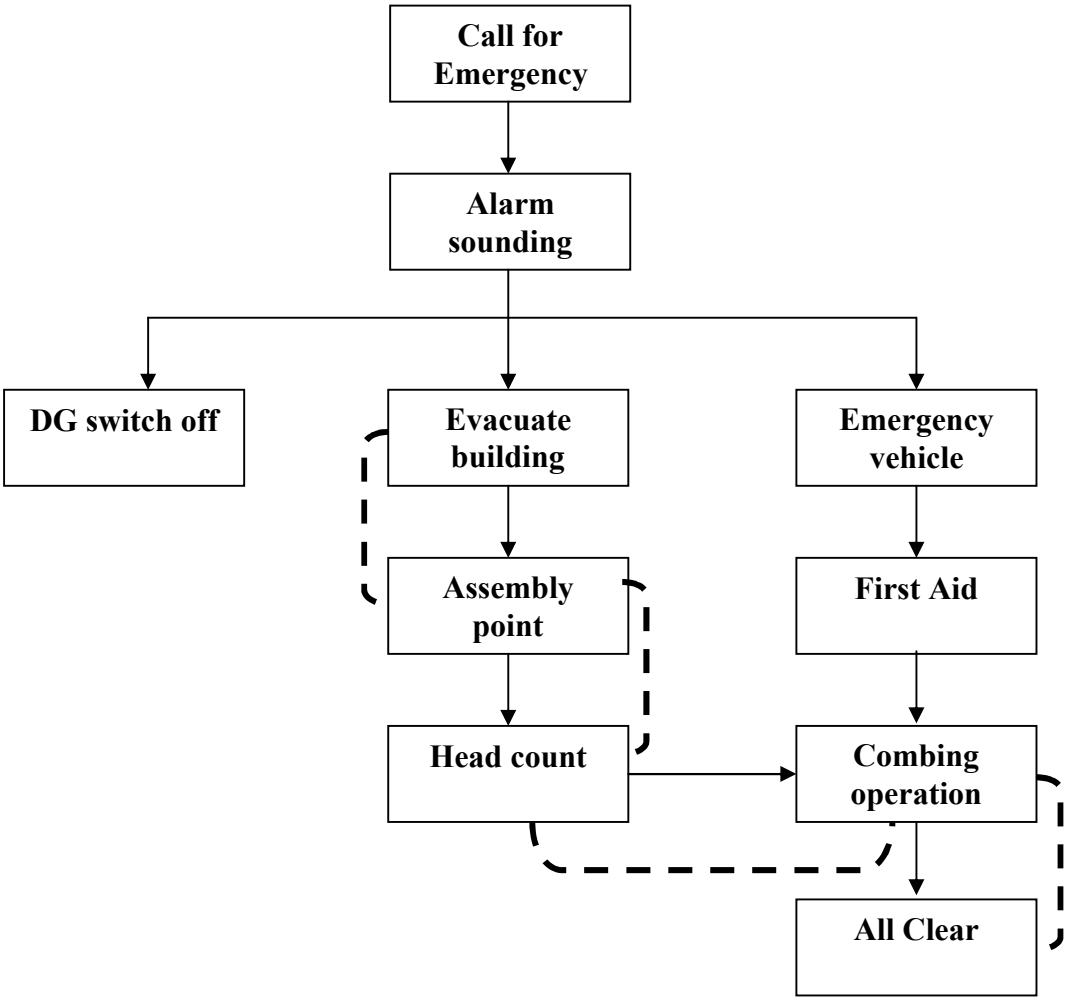
6. Fire Extinguisher Locations



7. EMERGENCY EVACUATION - RESPONSE TIME INDICATOR

Action By/ Responsibility	12:15	12:17	12:19	12:21	12:23	12:25	12:27	12:29	12:31	12:33	12:35		Target
Dinesh													Planned
Call for Emergency													Actual
Security													Planned
Alarm Sounding													Actual
Rajashekarn													Planned
Switching off DG													Actual
Staff & Labours								Line 1					Planned
Evacuate building			DELAYED	DELAYED									Actual
Prashanth													Planned
Emergency Vehicle													Actual
Block Engineers													Planned
Head Count					DELAYED								Actual
ERT													Planned
Combing operation & Shifting casualty						DELAYED				Line2			Actual
Sudhakar													Planned
First Aid facility													Actual
Praveen Mahtre													Planned
Managing at Assembly point					DELAYED	DELAYED							Actual

8. Flow Control for Emergency Evacuation



The chart shows the flow control to be followed while evacuating the Project site.

The Dashed lines show the delay time impact on the subsequent activity that was followed for this particular mock drill. It gives a clear picture regarding the delay in response time & the improvements & resolutions to be made for that particular activity.

9. Analysis of Response time indicator

The response time indicator has been monitored w.r.t the preplanned time slot for each activity versus the actual recorded while the evacuation was in progress. The yellow shaded regions are the preplanned time defined for each activity whereas the green shaded regions indicate the actual recordings of the event during the emergency.

- Line 1 shows the total time taken to evacuate the building from the start of declare of emergency to the end of assembling at the safe assembly point (Excluding casualty – if any) = 14 minutes.
- Line 2 shows the total time taken to evacuate the building from the start of alarm sounding till all labors including casualty being evacuated out of the building = 16 minutes

The time response indicator (TRI) shows that there was a delay in 4 minutes for evacuating the building as against originally planned. This delay has affected the subsequent activity of head count at the safe assembly point by 2 minutes & yet again the combing operation delayed by 2 more minutes.

But few activities like switching of Power supply, arranging of emergency vehicle & availability of first aid have been executed in timely fashion & as planned. This shows that few activities can still be accomplished as planned in spite of delay in certain other activities. The

outcome of this monitoring indicates that few activities have a delay triggered impact on subsequent activities to follow, whereas few others are independent of any such delays.

From the above TRI: -

The total instances of delay are = 4 activities

The cumulative delay for all instances are = 12 minutes

10. Illustrative recordings of Mock drill

Labourers at the site before declare of emergency

Security starting the sounding of alarm (whistle) inside the building

Labourers on the external front moving towards the exit gate

Workers marching towards the safe assembly point - (DG switched off- not in pic)

Workers working on the above floors egress through the central staircase towards the safe assembly point- Block II

Workers coming out of the building & marching towards the exit in Block I

Mr. Rane, monitoring the entire activity with Response time indicator matrix at the Safe assembly point

Workers started gathering at the safe assembly point

Respective Block in charge start head count operations

Emergency Vehicle & first aid kits made available at the Safe assembly point

Remaining few workers coming out of the building & gathering at safe assembly point

All personnel & workers standing in orderly fashion to facilitate head count operations

ERT members beginning combing operations after head count discrepancy noted & informed

One worker found immobilized, but breathing normal at 1st floor Block I, (assumption)

ERT team members providing support & securing the injured victim

The victim being suspected for a spinal cord injury, carefully being placed on the stretcher and being moved out of the building towards emergency vehicle at safe assembly point by ERT members

The ERT members approaching the emergency vehicle with the victim on the stretcher

The victim brought near to the emergency vehicle to be shifted to hospital near by.

Mr. Rane noted down all the recordings in the TRI & filling up the required info.

Mr. Dinesh expressing happiness & congratulating the staff regarding the way the Mock drill concluded.

The labourers being addressed by PM's, APM, & QST personnel regarding the importance & usefulness of the exercise

All labourers dispersing after the PM sounded the all clear signal

The site staff, PM & the QST department discussing regarding, shortcomings, improvements, any missed out activities of the mock drill labourers being addressed by PM's, APM, & QST personnel regarding the importance & usefulness of the exercise

11. Further Improvements

The proposed improvement for our next emergency evacuation program will be reduced by, 12 / 4 ➔ 3 minutes, which has been derived from the Analysis of response time indicator section.

I.e. The total time taken for the evacuation of all personnel from the building to the safe assembly point (including any casualty) from the start of alarm sounding will be **13 minutes as against the 16 minutes** recorded in this mock drill.

It is also proposed that the next Emergency evacuation drill will include the time required for the casualty to be shifted to the hospital & combating any hazard inside the building.

Provision to sound the alarm using Sirens, instead of whistle will be included.

Prepared & Witnessed By: _____

Vijay A
(Sr. SE)

Witnessed & Agreed By: _____

Dinesh B Saran
(PM)

SOBHA

PASSION AT WORK

SOBHA DEVELOPERS Ltd

Report on National Safety Day Celebration

- A Campaign

Sobha Carnation - Pune

38th – National Safety Day

4th March 2009

"Observe Safety everywhere"

The 38th National Safety Day was celebrated with great fervor on the 4th March of 2009 at SOBHA CARNATION – Pune

Contents:

"Prevention is better than cure"

Safety Day Celebrations

The Origin of National Safety Day

National Safety Council Profile

Background

The National Safety Council (NSC) was setup by the Ministry of Labour, Government of India on 4th March 1966 on the recommendations of the labour Ministers conference held in 1962 as an apex body at the national level.

Vision

To serve the society by creating a preventive culture, scientific mindset and organized approach to Safety, Health & Environment issues. It is our belief that these issues are a basic humanitarian concern. We equally believe that their effective addressal is greatly facilitated if their intrinsic relationship with quality and productivity is demonstrated.

"Expect the Unexpected"

Mission

Building a National movement on EHS to prevent and mitigate the loss of life, human suffering and economic losses and providing support services.

Management

- *An independent multi-partiate Board of governors including 16 central government nominated members- 8 from central organizations of employers & 8 from central organizations of workers*
- *Chairman nominated by the central government*
- *Director General is the chief executive. The central government approves his appointment*

Network

NSC has an all India network of over 7200 members comprising of industrial establishments, institutions, trade union organizations, professionals & other individuals, 17 state chapters & 30 Action centers covering 22 states & a Union Territory

Services

National & International conferences: – A premier national body to organize a prestigious National & international SHE conferences known for their unique contribution in exchange of experience & deliberations on burning issues.

Training *– A wide range of national level training courses on SHE being organized across the country. Also conducting need based tailor made training programs at unit level.*

"Better be safe than sorry"

National Campaigns – *The awareness campaigns spearheaded by NSC greatly helps to create and sustain awareness on SHE and highlight the current issues at the national level which includes*

A) National Safety day/ week Campaign – (4th – 10th March) – spear headed by NSC since 1972 to mark its foundation day

B) Fire service week – (14th April – 20th April)

C) World Environment day – (5th June)

Promotional Material

A leading resource center for promotional material with appealing original messages suited to Indian culture through National safety calendar brought out every year, Posters (above 110 types) & stickers (above 60 types).

Consultancy Services

Conduct safety audits, carry out risk assessment, HAZOP studies & safety awareness surveys, prepare emergency plans (onsite & offsite) & complete package of services for implementation of OHSMS confirming to IS 18001 certification

Information resources

Brought out HSC dairy every year, pocket guides, maintain computerized data base & HSE library for use of members.

Periodicals

Industrial Safety chronicle (quarterly) & industrial safety news (Bi-monthly)

Publications

Technical manuals, handbooks, book lets, safe practice pamphlets on handling of hazardous chemicals, proceedings of important conferences & Indian reprints of important International publications

"Safety is a key to Progress"

Development of National Standards

Chairmanship of occupational safety & health of chemical hazards sectional committee of BIS for last 15 years which has developed over 120 Indian standards on OSH

NSIC Safety awards

Two distinct national level award schemes for the calendar year – 1 for manufacturing sector since 1998 & the other for construction sector 2005 to provide recognition for developing and sustaining effective occupational safety & health management systems & procedures.

Labourers & Staff assembling for the Function

Mr. Praveen Mahtre & Engineers organizing the crowd inside the building for the safety day celebrations

"Learn Safety, Teach Safety, Practice Safety"

Administering of Safety pledge – English

All Engineers & staff undertaking safety oath /pledge in English on the occasion of National Safety Day – By A. Vijay

All Contractors, Labors & Tradesmen participating in the undertaking of safety pledge in English

Administering of Safety pledge –Hindi

All Engineers & staff undertaking safety oath /pledge in Hindi on the occasion of National Safety Day – By Sudhakar

All Contractors, Labors & Tradesmen undertaking the safety pledge in Hindi

"Safety has no Holiday"

Achievements of Sobha Carnation

Mr. Ajith sharing the statistics of the Project

Statistics at a Glance

1. Start of Project	Feb 2008
2. Total Safe Man hours (Approx)	1.17 Million Safe Man Hrs
3. No of Fatality	NIL
4. No of First Aid (Feb)	03
5. No of Major Accident	NIL:
6. No of Minor Accident	NIL
7. No of Dangerous occurrences	NIL
8. No of on site trainings conducted	06

"Housekeeping is the first step towards safety"

Importance Of Safety

Mr. A. Vijay (S.SE) Addressing the Labors regarding the importance of Safety

On the occasion of 38th National Safety day, I would say that Safety is an important aspect of our daily construction activities. We should derive the maximum benefit of it. Safety should not be seen as a hurdle while executing any activity, but should be considered as a tool to safeguard the life of an individual, which is very precious. There are many hazardous & dangerous situations we encounter daily in our working profile, many are known, some are unknown & unexpected. Preparing ourselves against these known & unexpected hazards by taking adequate precautions to encounter these hazards is necessary to minimize loss of life & damage to property & environment. This is possible only when the attitude of the individual changes & accepts safety to be a friend rather than a discomfort. I would request you all to make this change in yourself from today & ensure that all safety regulations & protocols are abided religiously to create a better & safe working environment.

"Life is very precious – Once lost, cannot be retrieved"

Addressing the labors - By Dinesh B Saran

On the occasion of the 38th National Safety Day, I would like to emphasize our Organization's commitment to the Environment, Health & Safety of the individual & the society at large. Our Organization has utmost concern towards the workers engaged in making Sobha Developers dream a reality. Its aim is not only to provide an ultimate lifestyle for its client satisfaction, but also to ensure that the actual persons behind these purpose are adequately taken care of. Our organization has one of the highest standards for Quality, Safety & Technology which aims at providing marvelous structures that are being established in the real estate & the construction sector world wide.

Also on this occasion, I would like to congratulate you all for your cooperation for emulating the culture of our organization & striving hard to achieve a better & safe working environment. I would like to appreciate the drastic improvements in your attitude with regards to safety, when compared to the initial days at the start of project. I request you all to maintain the same temperament till the end of the project & in future by, minimizing Injuries, Accidents & Fatalities which are a burden to the Self, Organization, Society & the Nation as a whole.

"Safety is everybody's responsibility"

Safety Topic – By Niranjan

Safety is very important in our life. To develop a better attitude towards safety we all will strive by Developing:

- *Knowledge of safety*
- *Service towards Safety*
- *Friendship with Safety.*

Safety Topic – By Rajput

The life & body of a human being is a wonderful architecture & witness of God's creation. It is our responsibility to maintain this in good health & condition as this is very precious. Request you all to take care of this wonderful creation by developing a good attitude towards safety.

"No Safety, Know pain. Know Safety, No pain"

Distribution of Appreciation Certificates –

By Manjunath SK Rao - PM

Certificate of appreciation were awarded to one worker from each contractor on the occasion of 38th National Safety Day for "Best worker to follow Safety Standards"

"Safety Policy is the Best Policy"

Distribution of Appreciation Certificates –

By Dinesh B Saran – PM

Certificate of appreciation were awarded to one worker from each contractor on the occasion of 38th National Safety Day for "Best worker to follow Safety Standards"

"Follow Safety to avoid Accidents"

Distribution of Appreciation Certificates –

By Praveen Mahtre – APM

Certificate of appreciation were awarded to one tradesmen from each department on the occasion of 38th National Safety Day for "Best worker to follow Safety Standards"

"Safety First, Everything Next"

Safety video display for all Staff & Laborers

Safety video being displayed & explained

"Follow Safety – Your Family needs you"

Distribution of Sweets to all staff & Laborers






"All Ends well that starts with Safety"

Conclusion

The 38th National Safety day celebrations started on a good note. It was appreciated & well received by the laborers & staff. It created a sense of commitment to follow safety protocols & regulations. The outcome of the celebrations was positive & reaffirmed the Organizations commitment to ensure a Safe working culture even in hard times.

E H S Coordinators

- ***Mr. Vijay A –*** *For Planning & Managing the event*
- ***Dinesh B Saran –*** *For Initiating, Organizing & making this event a success.*
- ***Mr. Praveen Mahtre –*** *For Organizing & making arrangements*
- ***Mr. Manjunath SK Rao –*** *For selecting awardees & participating*
- ***All Engineers & Staff – (Neither the last, nor the least)*** *- For Organizing & managing the workers and actively taking up different responsibilities to make this event a grand success*

Prepared & Witnessed By:

Vijay A (Sr. SE)

Witnessed & Agreed By:

Dinesh B Saran (PM)

SOBHA DEVELOPERS Ltd

Report on Implementation of Photo Identity cards, It's Effectiveness & Advantages

Department of Quality Safety & Technology

Module Head: Bharamana Gouda

Site Name: Carnation, Pune

Module # IV

Date: 7th Apr 09

Contents:

1. Introduction

Sobha Carnation, Pune is an In-house project covering an area of 301060 Sq.ft. It comprises of two Blocks, B + G + 9 Floors in each block, a total of 116 apartments of various types & other luxurious lifestyle defining amenities

It has been Sobha Developers vision & mission to deliver apartments of outstanding quality at reasonable price & also to exceed the satisfaction levels of its esteemed clients.

But it is Sobha Developers dream to accomplish this task without compromising on the quality of the work executed & the safety of the personnel's involved in making this dream a reality.

It has been observed that Sobha Developers has one of the best tools & products; strict standards, procedures & documentation; adequate enforcement & training by QST; provision for all required resources, supporting departments, man power & strong commitment towards the general environment & safety of all its workers. In spite of all this, we are all witness to the Accidents, Incidents, Injury & Fatalities in terms of Safety & few rectification & maintenance works in terms of quality.

2. PRIME CAUSE

As we keep on wondering what could be the prime cause for these hurdles to be present amidst the dreams of our organization. For these hurdles are not only an unnecessary economical burden, wastage of time & man power, but also attracts legal attention which affects the brand value of the organization.

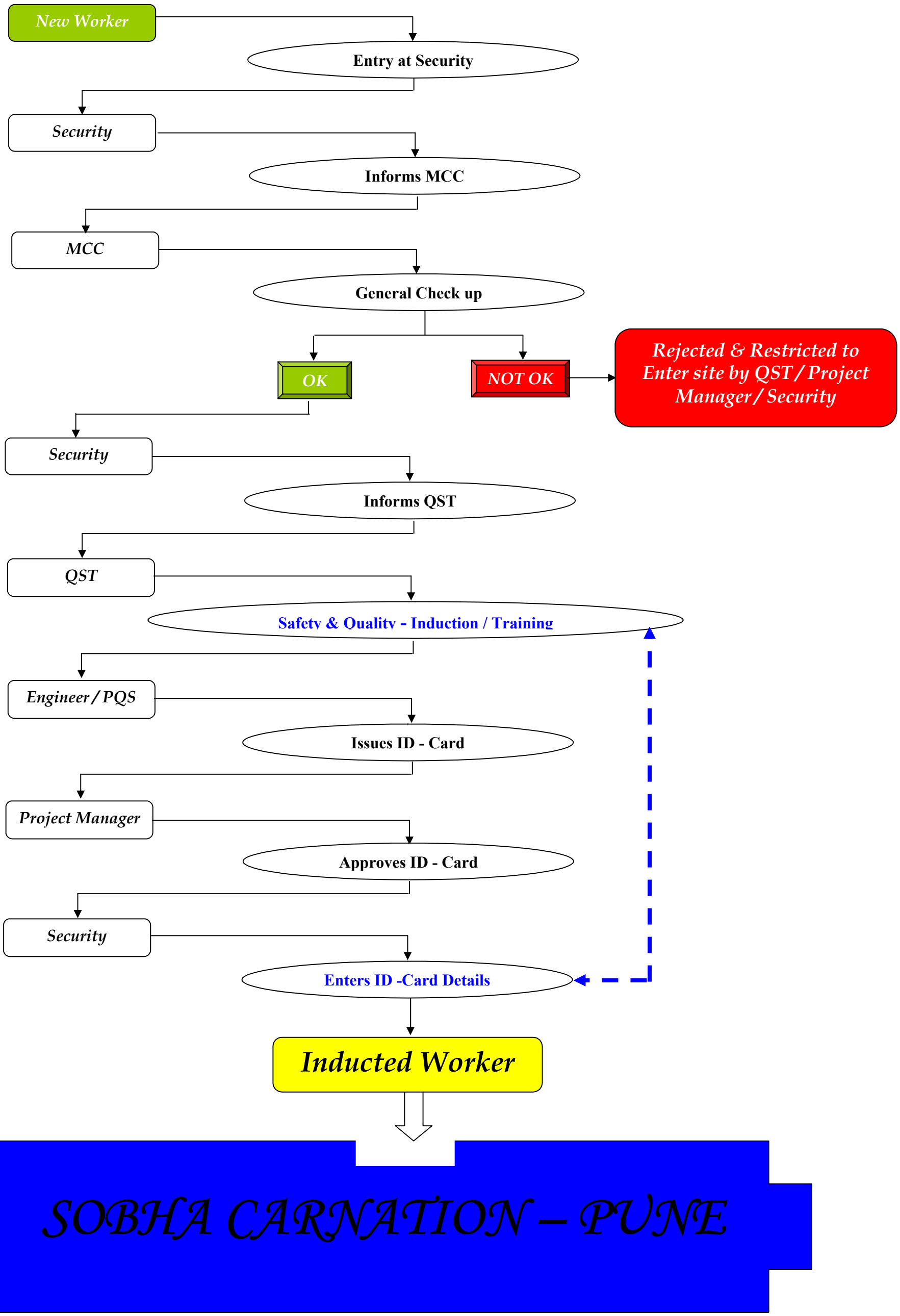
We have realized that careless attitude, the lack of proper knowledge & inadequate monitoring of the workers who are executing the job at the grass root level to be the prime reason for such things to occur.

This has to be mitigated / combated by improvising & implementing certain process & system which will drastically reduce the impact affecting quality & Safety.

As a first step in this regard, we have proposed to effectively implement the system of "PHOTO IDENTITY CARDS" for our project which will be way forward for:

- *Monitoring the workers,*
- *Creating awareness*
- *Imparting training & knowledge (Quality & Safety)*

3. Process flow chart for implementing Photo Identity Card System



The process flow chart gives a clear illustration regarding the system to be adapted to induct a new worker into the site along with the "photo identity card"

- *A new worker who arrives at the project has to approach the security at the main entrance*
- *The security verifies his details & forwards the new entrant towards the medical care center*
- *The personnel at MCC will do a general check upon the new entrant like pulse rate, weight, age verification, respiration etc.*
- *If the entrant is considered to be fit & healthy enough to be engaged in the site, then those entrants will be forwarded to the QST department by the security for Safety induction & Quality induction training which will be for 20 -35 min.*
- *Entrants failing the general check up test will be informed to the QST, Project Manager & the security will be responsible to depart them back.*
- *The safety personnel will conduct tool box talk on the safety protocols being followed at site & other safety topics related to his particular trade. The quality personnel will then conduct a tool box talk related to his respective trade & will forward him to the concerned engineer / PQS for issuing of ID card.*
- *The PQS/ Engineer will note down the relevant details & make an Identity card with photo & forward it to the project Manager.*

- *The Project Manager after verifying the details will authorize the entrant to work inside the premises.*
- *The inducted entrant will be again reporting to the security to register the details of his identity card & thus proceed further escorted by the concerned engineer to be engaged in his respective trade.*

4. Advantages of Photo Identity Card

- *Easy accountability for the execution team for the deployment of labors & to maintain their DLR & DPR reports.*
- *Tracking the frequency of the tool box talks conducted to the respective worker.*
- *Time saving & easy for the security to make register entry while allowing them to the site at mornings & while during lunch & end of days work.*
- *Time saving & easy identification for stores while allocating tools & products to the personnel.*
- *Easy & quick head count availability in case of Emergency Evacuations.*
- *Easy to identify safety violators & monitor their activities.*
- *Prevention of misrepresenting of workers.*

5. Difficulties in implementing the system

- Medical care center may not be available in the initial stages of the project.
- Identity cards needs to be continuously procured due to wear & tear & sudden entry of more number of labourers at an instance
- Since all new entrants will not have their photo with them, the implementation might get delayed due to non availability of the photographs. Hence a back up plan to provide the labors with photos as early as possible should be established.
- Tracking of new entrant arriving at odd hours like early morning or late night should be ensured.

6. Cost factors

The cost of 1 identity card with :-

1. Card
2. Pouch
3. Tag &
4. Photo

= **Ten Rupees**

This rate has been considered taking into the fact that photo is also being provided by the Projects with coordination from QST department. This is a feasible solution for effective implementation of the "Photo Identity Card System"

7. Conclusion

After this system has been established & maintained, it will be easy to manage the workers as a whole & we can clearly be able to identify & track the scope for improvement for that particular worker / contractor in terms of training, violation & execution.

This will not only help in reducing the Accident, Incident & Fatality rate but also insulate the organization against any legal tangles in case of any accidents or fatalities as their will be sufficient proof & documentation to prove that every effort was made by the organization to safe guard the worker as per the organizations commitment.

Sincere Acknowledgements

Mr. Bharamana Gouda (Module Head) –For guidance & approval

Thank you

SOBHA DEVELOPERS Ltd

Innovative Approach To Ensure All Time Safety through Safety Violators – "Voluntary Service Program".

Department of Quality Safety & Technology

Guided By: Bharamana Gouda

Prepared By: A. Vijay

Coordinators:

1. Security Team
2. Dinesh B Saran
3. Manjunath Sk Rao
4. Rane GN
5. Praveen Mahtre
6. Ajith Phulpagar
7. Raval Ravi
8. Giridhar

Module Head: Bharamana Gouda

Site Name: Carnation, Pune

Module # IV

Date: 11th Apr 2009

Contents:

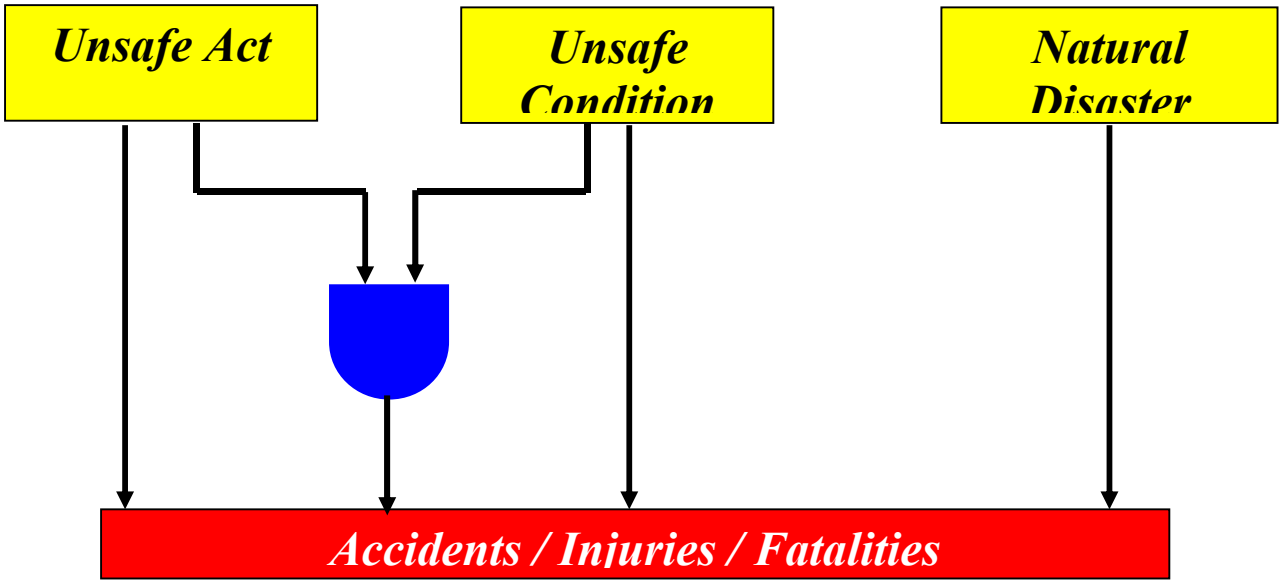
1. General Introduction

Every one involved in the Construction Industry have realized over a period of time that Safety, which was on the back burner of the costs & resources involved in executing any project or construction activity, has become the fore runner for establishing its presence as one of the major criteria for - value addition, leading edge in a competitive market, brand value, life saving & cost saving, optimum utilization of resources, corporate, social & humane responsibility and many such things to galore.

Though Sobha Developers, as a responsible organization has strong commitment towards safety & has done considerable investment with respect to Safety by providing adequate Engineering Controls, Personnel Protective Equipment, Administrative controls & required Training to effectively implement, operate & establish a standard procedure for safety at site, we witness that few skilled, semi-skilled & unskilled workers owing to different backgrounds, habits, nature of work & improper attitudes are prone to neglect safety protocols & willfully commit safety violations which not only endanger them, but most often fellow workers & work environment surrounding them are also inadvertently affected by these unsafe acts.

Thus the rate of Accidents, Injury, Fatality, & Dangerous occurrences are predominantly witnessed in all projects in spite of our Organization & all our Team's best efforts put together.

2. Analysis of Accidents & Injuries



Accidents are not only an economical burden to the organization, but it also affects the morale of the work force & the lives of individual / family who contributes towards the success of the Organization. This directly affects the progress of the Organization, Society & the Nation at large. Generally accidents occur due to the following:-

- *Unsafe Acts.*
- *Unsafe Conditions.*
- *Natural disaster /calamity – Earth quake, flood (Uncontrollable).*

I.e. Mostly Accidents occur due to an unsafe act or an unsafe condition or combination of both & Natural disaster or calamities are beyond the control of human beings which cannot be controlled.

But nevertheless, unsafe acts & unsafe conditions can be eliminated by different process & controls. Accidents are certainly avoidable if the above 2 are taken care of adequately.

3. Evolution of the System

Previously in some of the in - house projects, we have come across procedures where safety violators are identified & a penalty of few hundred rupees are deducted or debited from the bills of their respective contractor depending on the nature or severity of the safety violation. But this has not been very effective & feasible since:-

- *The Contractor might be reluctant to agree for the deduction.*
- *It will be a financial burden for unskilled daily wage workers.*
- *Some feel it is unethical to monetarily penalize for wrong doings not directly associated with work.*
- *Instead of curbing & regulating the attitude of the worker, this kind of penalty might further aggravate their behaviour resulting in repeated offences* ***(revengeful attitude).***
- *Proper system has not been established regarding the procedure to deduct the penalty from the contractor bills.*
- *Though if it is established, its effectiveness might be limited to eliminate unsafe acts but not unsafe conditions which still can result in accidents.*

Hence to combat both unsafe acts & unsafe conditions, all the team & staff of Carnation project discussed to resolve this matter in the monthly safety committee for March 2009 & arrived at a conclusion that, Safety violators will not be monetarily penalized, but will be

effectively monitored & their unsafe acts will be utilized to reduce unsafe conditions thereby eliminating the causes for accidents to occur.

Thus the Innovative idea of utilizing unsafe acts to mitigate unsafe conditions & thereby eliminate Accidents came into being & was termed as "Safety Violators – Voluntary Service Program"

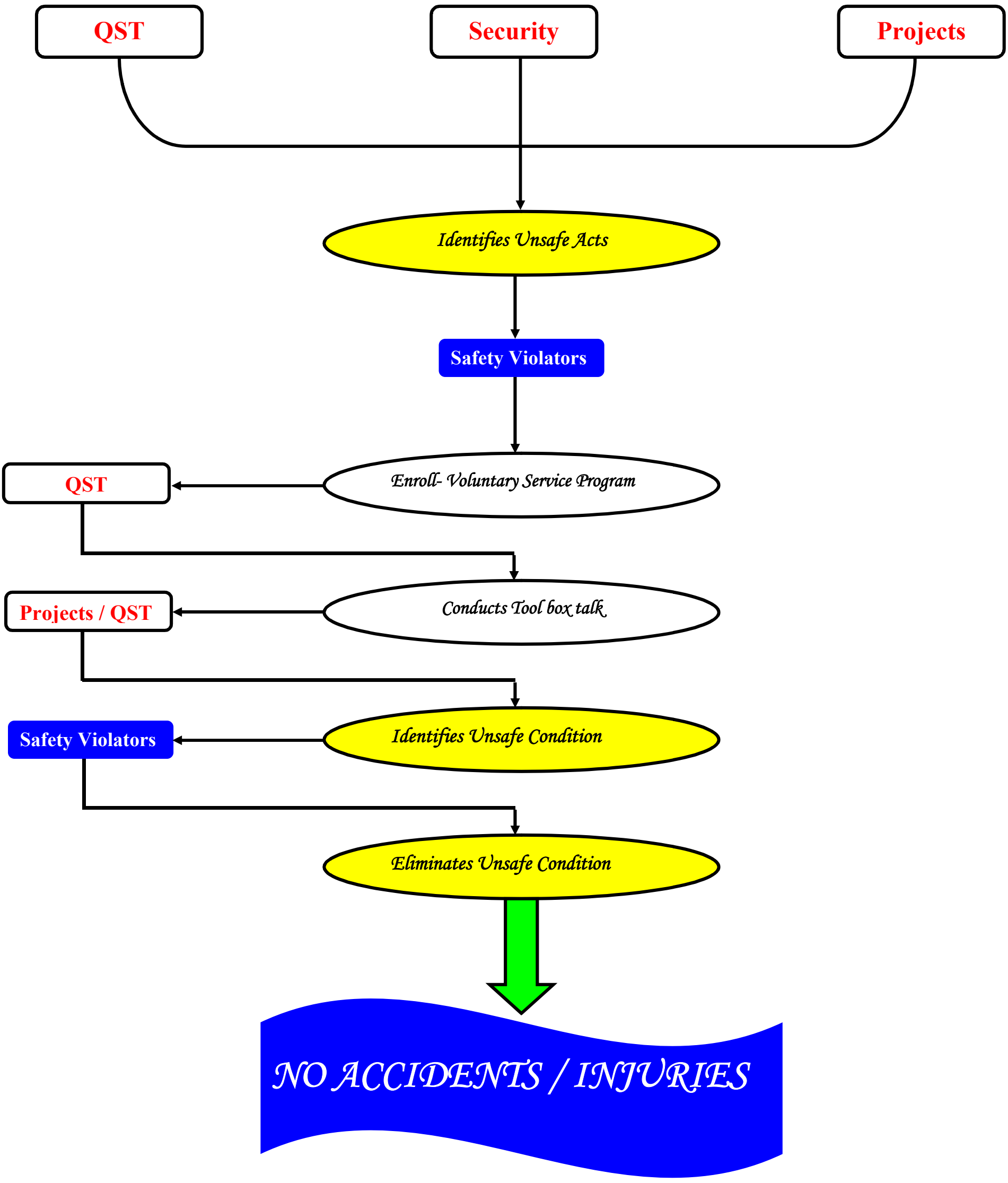
4. Implementation Process

*Initially the objective of this approach is to identify workers committing unsafe acts, like all PPE violation, Horse Play, Tobacco Chewing etc. They will be termed as "Safety Violators". These Safety violators will be noted down & be enlisted in the "Safety violators program" brought to the Safety room for tool box talk & their details will be noted down. This process is repeated from the start of every week & continues till the weekend. The Safety violators will attend a separate tool box training on every weekend & will be assigned on particular jobs for **two hours** after 6 P. M. These 2 hours will be dedicated to eliminate any unsafe conditions or make the site a better working place. The work done in these two hours will not be accounted for & will be termed as voluntary service done by the Safety violator as penalty for his unsafe acts & his contribution to eliminate unsafe conditions for the benefit of the self & fellow workers.*

*As safety professionals we have learnt that **"Housekeeping is the first step towards Safety"**. Certainly proper housekeeping can eliminate lot of unsafe condition. Hence we have chosen to assign the violators to Housekeeping & Material Stacking practices which can result in minimizing many hazards arising out of bad housekeeping practices. If we have a place for everything & everything in its place, then most of the hazards like, striking objects, trip hazard, fall hazard, small cut to feet & toes, falling objects, respiratory hazard etc can be avoided.*

Contd..

5. Process flow chart of Safety violators – "Voluntary Service Program"



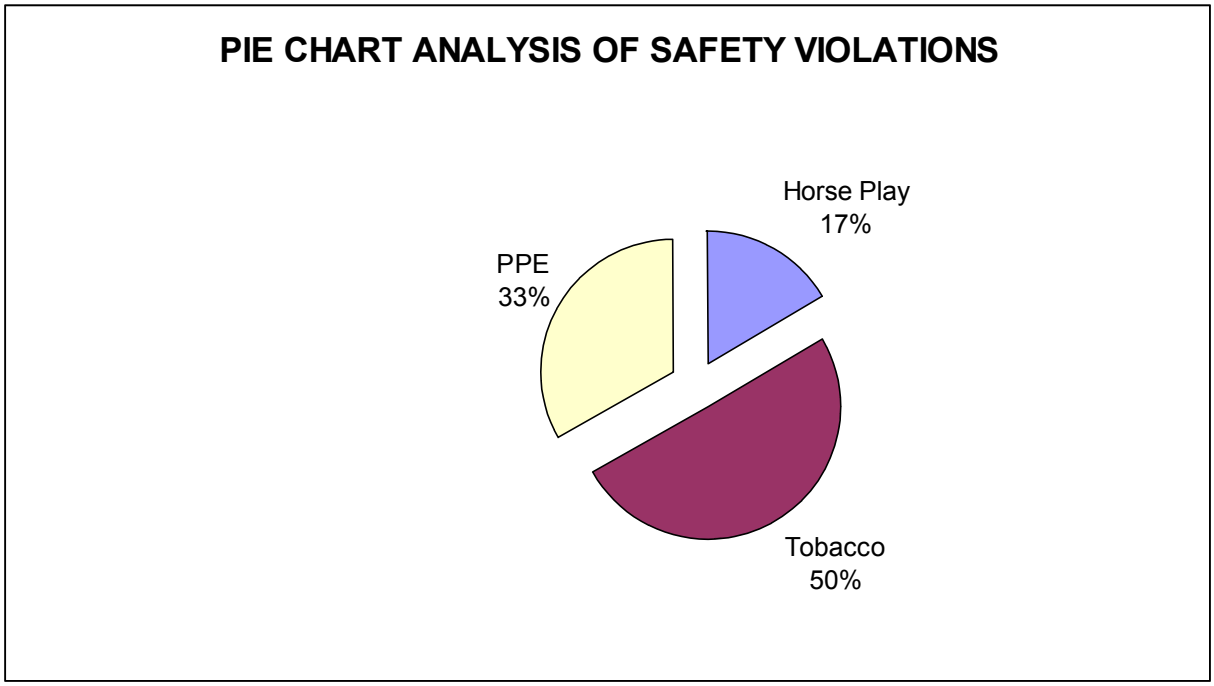
6. Step by Step Procedure

- QST, Security & Projects to identify workers committing unsafe acts during their daily rounds & execution. (Mon – Sat)
- The details of the safety violators are noted down from the ID cards issued to them & they are enlisted in the "Safety Violators – Voluntary Service Program"
- Safety personnel from QST will conduct Tool box talk on Violations committed by them on weekends (Sat).
- Projects & QST to identify Unsafe conditions like, Scattered nails, Debris from nets, Stacking of scaffold members, scrap steel segregation, Sweeping, Debris shifting etc.
- The enlisted Safety violators will be assigned to execute the job identified by QST & Projects for 2 Hrs (After 6 PM) on weekends.
- This process will be repeated every week from (Mon – Sat).

Note: The work done during these specific hours by the violators will not be liable for payment & is considered to be done voluntarily

7. Case Study

In Sobha Carnation, we have identified 12 safety violators after the launch of this program & had them enlisted in the **"Safety Violators – Voluntary Service Program"**



SL	Description	Values Remarks
1	No of Safety violators	12
2	Type of violations	PPE violations, Horseplay, Tobacco
3	Unsafe Condition	Steel bundling rings scattered in Steel yard
4	Possible Hazard	Striking objects, Punctures etc

The 12 Safety violators were enlisted in the "Voluntary Service Program". They were utilized to clear the steel yard area of steel scrap & bundling rings, which had the potential to cause injury, (striking objects), Puncturing of tractor & other vehicles utilized to load, unload & shifting of steel.

Thus their unsafe acts were utilized to eliminate 1 of the unsafe condition prevailing at site which can have its impact on less number of first aid cases.

7.a Descriptive Snaps of the case study

List of violators enlisted for "Voluntary Service Program"

Violators assembling for the voluntary service program

Tool box talk conducted for Safety violators

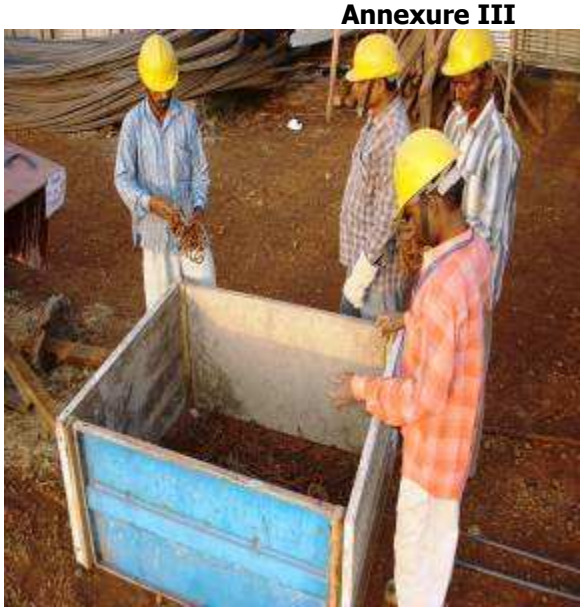
The location of unsafe condition – Steel yard

Ring used for bundling steel scattered in Steel yard.

Safety violators putting in their effort to clear the steel rings

Safety violators accumulating the steel scrap & ring in a separate container

Steel scrap & bundle rings stored in container



Work in progress

All steel scrap & bundle rings cleared from steel yard & properly accumulated in a separate container free from any hazards.

The steel yard pathway clear of striking objects thus reducing injuries & puncturing of tires

8. Advantages

The advantages of this system are:-

- *This does not financially burden the lower wage classes but also is effective.*
- *This approach will help in eliminating many unsafe conditions which are prime reasons for accidents.*
- *This approach will help in curbing the attitude of the safety violators & will make them more responsible towards their job.*
- *When the tool box is conducted, we will be having an opportunity to discuss all the violations that occurred in that particular week instead of discussing the violations committed by an individual.*

This will create more awareness to the violators involved in the program.

- *This approach gives them an opportunity to rectify themselves without having to sustain economical repercussions on them.*
- *This approach sends a message that we have concern towards them to follow safety for their own benefit.*
- *This approach is friendlier & most of the work classes do not have any hesitation to agree for the voluntary service program.*
- ***The most important thing of this approach is utilizing unsafe acts to eliminate unsafe conditions there by reducing cost implications to the Organization, individual by eliminating accidents.***

9. Conclusion

Finally we can conclude that this approach will be more beneficial compared to monetary deductions from their wages. This will help in changing the hostile attitude of the unskilled & semi –skilled worker & make him more responsible to ensure that compliance to safety protocols are followed at site & also helps in reducing accidents & Injuries at site.

For the future we intend to develop more intrinsic program by identifying specific unsafe conditions for specific group, for example:

1. *Any Electrical tradesmen enlisted in the voluntary service program will be allotted work related to electrical safety – like checking of DB's , routing of cables above 8 feet etc.*

2. *Carpenters enlisted in the voluntary program will be allotted to remove all projected nail from wooden strips lying inside the building & planning yard Etc...*

Sincere Acknowledgements

Mr. Bharamana Gouda (Module Head) –For guidance & approval

Mr. Dinesh B Saran (Project Manager) – For coordination & initiating the system.

Security Team & Site Engineers - For supporting this initiative.

Thank you

SOBHA DEVELOPERS Ltd

Report on - Emergency Preparedness – Mock Drill

Prepared By:

A. VIJAY.

EHS Coordinators

Bharman Gouda – Module Head
Dinesh B Saran – P M
Manjunath SK Rao – PM
Praveen Mahtre –APM
Rane GN – PQE
Vijay A – Sr.SE
All ERT Team Members

Module Head: Bharamana Gouda

Site Name: Carnation, Pune

Module # IV

Date: 23rd May 2009

The drill started at 12:27 hrs & concluded at 12:45 hrs

Contents:

1. Introduction

The importance of an effective workplace safety & health program cannot be over emphasized. There are many benefits from such a program including increased productivity, improved employee moral, reduced absenteeism & illness, and reduced worker's compensation rates; however, incidents still occur in spite of efforts to prevent them. Therefore, proper planning for emergencies is necessary to minimize employee & property damage. After all, ***emergencies are about expecting the unexpected.***

2. Purpose

This discussion details the basic steps to handle emergencies in the workplace, these emergencies include accidental release of toxic gases, chemical spills, fires, explosions, natural disasters & trauma caused by workplace violence. This mock drill is not intended as an all inclusive safety program but rather to provide guidelines for emergencies & to analyze any short comings.

3. Planning

The plan must include as minimum, the following elements.

- *Emergency escape procedures and emergency escape route assignments.*
- *Procedures to be followed by employees who remain to perform for shut down critical plant operations before the plant is evacuated.*
- *A procedure to account for all employees after emergency evacuation has been completed.*
- *Rescue & Medical duties for those employees who are to perform them.*
- *The preferred means for reporting fires & other emergencies, and*
- *Names or regular job titles of persons or departments to be contacted for further information or explanation of duties under the plan.*

The emergency action plan should address all potential emergencies that can be expected in the workplace.

For emergency evacuation, the use of floor plans or workplace maps that clearly show the emergency escape routes and safe or refuse areas should be included in the plan. All employees must be told what actions they are to take in emergency situations that may occur in the workplace, such as a designated meeting location after evacuation, generally called the "Safe Assembly Point".

The plan must be reviewed with employees initially when the plan is developed, whenever the employee's responsibilities under the plan change, and whenever the plan is changed. A copy should be kept where employees can refer to it at convenient times.

4. Implementation

Prior to the tackling of any emergency, it is very much essential that everyone has a predefined task to perform & be prepared to execute their task properly when such a situation arises. It involves educating all the masses concerned regarding their roles & responsibilities during the crisis hour which is very critical. It is also very much essential to have a detailed list of resources to be made available like Fire extinguishers, Emergency vehicle, Medical care, Emergency & critical care contact numbers.

Constituting a team of Emergency Response Team members is very much essential & a vital necessity to handle any Emergency arising. These ERT members will have time specific responsibilities & are the core members involved in dealing any Emergency arising out of various factors.

It is not only important to have the resources available with us, but also it is very important to have full knowledge regarding their ways of operating & locations as well.

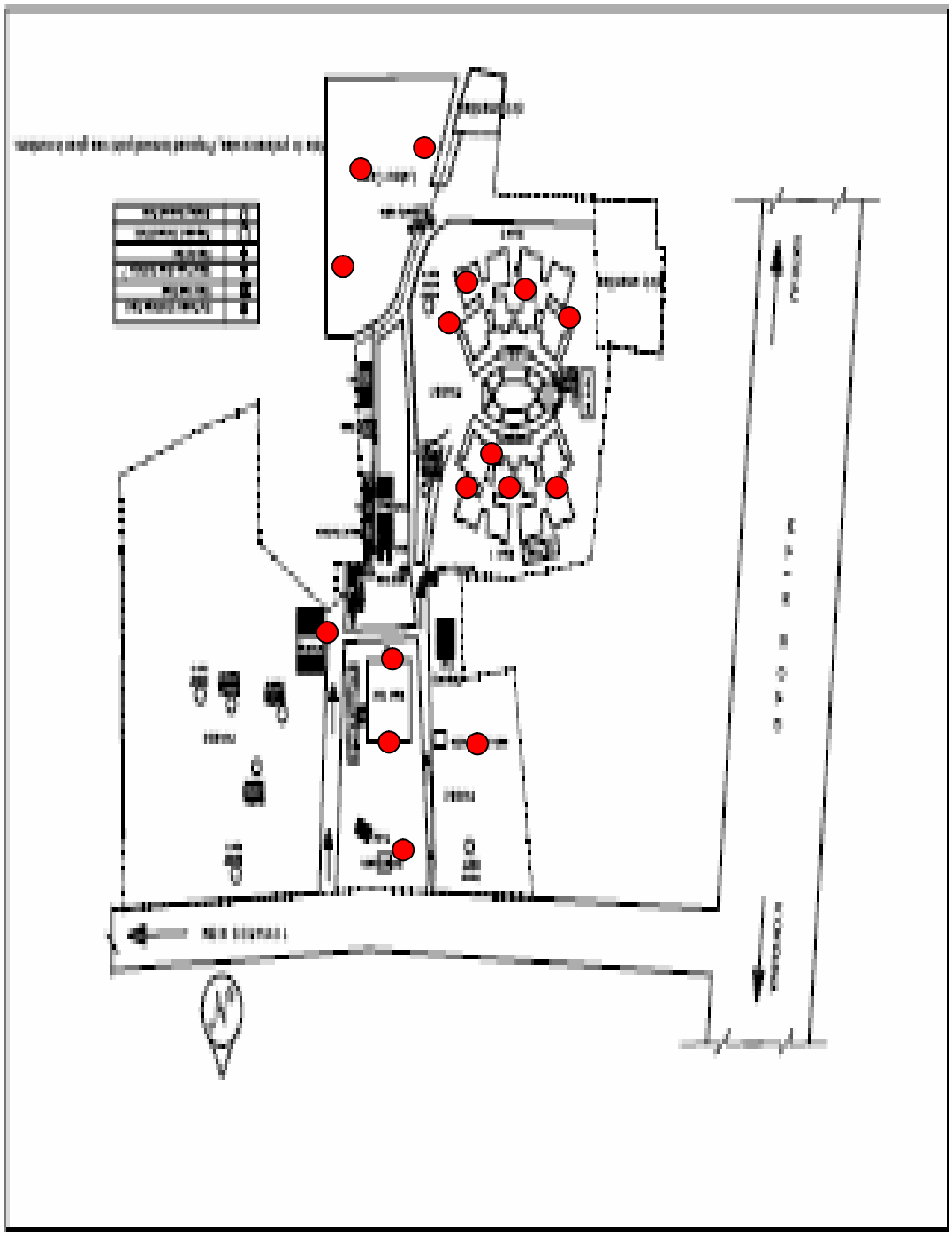
Knowledge about locations of Fire extinguishers, Emergency exits depicted in Floor plans, locations of first aid kits etc are very important to quickly address any issue arising out of these emergencies. These are preplanned & are made aware to all members of the team since these small things count in a big way to minimize the extent of loss to life & property

5. Responsibility Matrix

Names	Responsibility	Stand By
Dinesh B	Declaring Emergency & all clear signals	Manjunath
Security	Alarm Signal & Evacuation (ERT)	Sadiq
Rajashekarn	Switching off – DG supply (ERT)	Ram Kumar
Prashanth	Emergency Vehicle arrangement (ERT)	Samadhan
Sudhakar	First Aid facility (ERT)	Praveen Mahtre
Ajith	Evacuation of Block 1 & Head count	Ganeshan
Giridhar	Evacuation of Block 2 & Head count	Sekar
Basavaraju	Evacuation – External / basement & Head count	Niranjan
Manjunath	Managing workers at Safe Assembly point	Mahtre
Parashuram	Shifting casualty (ERT)	Sadiq
Shekar	Shifting casualty (ERT)	Vijay
Rane	Over all monitoring of the evacuation	Dinesh
Bharmana Gouda	Addressing the gathering at assembly point	Dinesh

Considering certain factors relevant to this project, specific responsibilities have been assigned to each member to be executed in case of emergency. They have been detailed about the importance of each action & the sequence of execution. All the labors & staff have been periodically informed regarding the evacuation procedure & assembling at the safe assembly point.

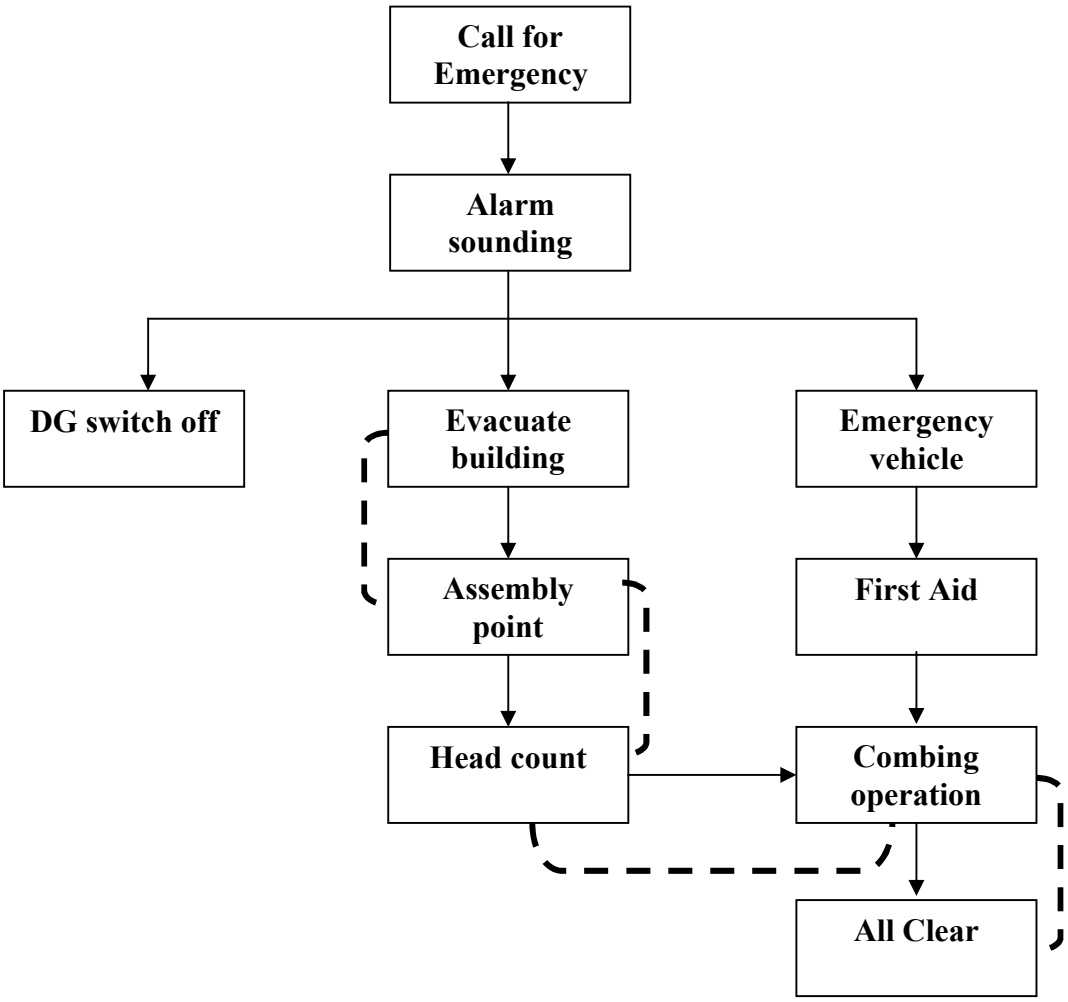
6. Fire Extinguisher Locations



7. EMERGENCY EVACUATION - RESPONSE TIME INDICATOR

Action By/ Responsibility	12:27	12:29	12:31	12:33	12:35	12:37	12:39	12:41	12:43	12:45	12:47	Target
Dinesh												Planned
Call for Emergency		1 Min										Actual
Security												Planned
Alarm Sounding										14 Min		Actual
Rajashekarn												Planned
Switching off DG										14 Min		Actual
Staff & Labours												Planned
Evacuate building										11 Min		Actual
Prashanth												Planned
Emergency Vehicle								10 Min				Actual
Block Engineers												Planned
Head Count											10 Min	Actual
ERT												Planned
Combing operation & Shifting casualty											8 Min	Actual
Sudhakar												Planned
First Aid facility						4 Min						Actual
Praveen Mahtre												Planned
Managing at Assembly point											12 Min	Actual

8. Flow Control for Emergency Evacuation



The chart shows the flow control to be followed while evacuating the Project site.

The Dashed lines show the delay time impact on the subsequent activity that was followed for this particular mock drill. It gives a clear picture regarding the delay in response time & the improvements & resolutions to be made for that particular activity.

9. Analysis of Response time indicator

The response time indicator has been monitored w.r.t the preplanned time slot for each activity versus the actual recorded while the evacuation was in progress. The yellow shaded regions are the preplanned time defined for each activity, whereas the green shaded regions indicate the actual recordings of the event during the emergency.

- *Line 1 shows the total time taken to evacuate the building from the start of declare of emergency to the end of assembling at the safe assembly point (Excluding casualty – if any) = 17 minutes.*
- *Line 2 shows the total time taken to evacuate the building from the start of alarm sounding till all labors including casualty (if any) being evacuated out of the building = 16 minutes*

Step wise Analysis of Response time

- *The response time indicator (RTI) shows that there was a delay in 2 minutes for sounding of the Alarm as against the planned target.*
- *This has led to subsequent delay in evacuating the personnel by 2 min & the activity has extended by 2 min as against the planned target.*

- *The activity of head count has extended by 2 min as against the planned, since the total height of the existing building is 18 Mtrs. (for previous mock drill, the height was 12 Mtrs).*
- *The activity of switching of DG got extended by 12 min as against the planned 2 min since the Siren/ Alarm is directly connected to the DG (**This was not taken into account while planning).***
- *The availability of Emergency vehicle has extended by 4 min since the vehicle was outside the site on official assignment.*
- *The combing operation for any casualty has got extended by 2 min as against the planned target.*
- *The availability of first aid kit & stretcher is executed as planned.*
- *Managing at the assembly point has extended by 2 min due to extension in evacuating personnel's.*

But activities like availability of first aid have been executed in timely fashion & as planned. This shows that few activities can still be accomplished as planned in spite of delay in certain other activities. The outcome of this monitoring indicates that few activities have a delay triggered impact on subsequent activities to follow & can result in extending the time limit for that particular activity, whereas few others are independent of any such delays.

From the above TRI: -

*The total instances of delay are = **2 activities***

*The cumulative delay for all instances are = **4 minutes***

Improvement = Time / Activity

*The total instances of extensions are = **7 activities***

*The cumulative time count for extensions is = **26 minutes***

10. Illustrative recordings of Mock drill

Work in progress before declaring Emergency

Sounding of Siren / Alarm

Security guiding workforce

Workforce being evacuated & made to assemble at Safe Assembly point

Workforce evacuating the building & moving towards Safe Assembly point

Mr. Rane (PQE) monitoring the Evacuation

Work force assembling at the Safe Assembly Point

Head Count & Managing the work force at the safe assembly point in progress

Emergency Vehicle Made available at Assembly Point

Head count verification & monitoring of the Evacuation drill

Module Head Mr. Bharmana Gouda addressing the labourers

Project Manager Mr. Dinesh B addressing the work force

Work force dispersing after the all clear signal

11. Further Improvements

The proposed improvement for our next emergency evacuation program I.e. The total time taken for the evacuation of all personnel from the building to the safe assembly point (including any casualty) from the start of alarm sounding will be ***14 minutes as against the 17 minutes*** *recorded in this mock drill which is derived from the* ***Response Time Indicator Summary***

- *It is also proposed that the next Emergency evacuation drill will include the time required for the casualty to be shifted to the hospital & combating any hazard inside the building.*
- *It is also proposed that visitors will be provided with temporary badges for easy accountability in case of head counts in case of Emergency.*
- *It was also noticed in the recording of the Mock drill exercise that the Siren is directly connected to the Diesel Generator & hence DG cannot be shutdown immediately after the sounding of the Siren & hence it is proposed that the Siren will be backed up by UPS supply when the next mock drill will be scheduled.*

12. Sincere Acknowledgements

- *Bharmana Gouda – Module Head → for guidance & approval.*
- *Dinesh B & Manjunath – (PM's) → for Coordinating & initiating.*
- *All ERT members → for making this mock drill a success.*

Thank you

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General Awareness – First Aid treatment for Snake bites

QST QUALITY SAFETY TECHNOLOGY

Trainer:

B. VIJAY.

Sr. SE

Attendees:

Bharamanagouda –DQM
Sekar R – Sr.SS
Tej Prakash – Pl.E
Ajith - S.S
All contractors Foremen

Module Head: Bharamana Gouda

Module # IV

Site Name: Carnation, Pune

Date: 26 Aug 09

The training started at 2:15 PM & ended at 3:00 PM

Contents:

1. Introduction

Human population has reached alarming stages & is increasing every hour. To satiate the needs of his comfortable dwelling, one can witness large scale construction activity. Our natural resources are limited & owing to lack of space, humans have started venturing to areas where many forms of wildlife are its inhabitants. Snake is one such animal classified under reptiles, which cannot be ignored since their bites are considered to be poisonous & can prove to be fatal. Hence it has become necessary to combat this menace by protecting ourselves against such a threat without endangering the life of these reptiles whose area we are trespassing into.

2. Aim

We at Sobha Carnation have witnessed few poisonous snakes in the past 2 weeks. Since any medical help that could be made available is kilometers away & snake bites could be fatal, we have felt it necessary to educate the workers & create awareness to protect themselves against these snake bites. This small general awareness on First aid for snake bites is intended not only to create confidence, diffuse the panic & unrest lingering in their mind, but also to protect themselves & protect the wildlife (snake) to whose area we are trespassing.

3. Some Facts about Snake Bites.

- *There are some 3000 varieties of snakes all over the world.*

- *Only 200 of them are venomous.*
- *All snake bites are not fatal.*
- *A victim of snake bite can be saved with a little presence of mind*
- *Snakes generally attack or bite when they feel threatened or disturbed or feel that they have no chance to escape.*
- *Snakes don't eat humans, their prey is always small animals like, rats, frogs, rabbits etc.*
- *Bigger snakes like python & Boa wrap themselves around the victim/prey & constrict/suffocate their prey until they become weak & die. Smaller snakes like Viper, Cobra etc have sharp teeth's, fangs & inject poison when they bite and the prey dies due to the spreading of poison.*
- *Only a very small quantity of venom might have been injected. Most people die not because of the venom, but due to fear & shock of being bitten.*

4. Line of Treatment for Snake Bite

- *Reassure & calm the victim*
- *Prevent the spreading of venom.*
- *Obtaining Medical Aid.*

5. First Aid for snake bite

- *Lie down and remain as still as possible, never walk. Activity can spread the venom throughout the body. Try to keep the affected limb at the same level as your heart.*

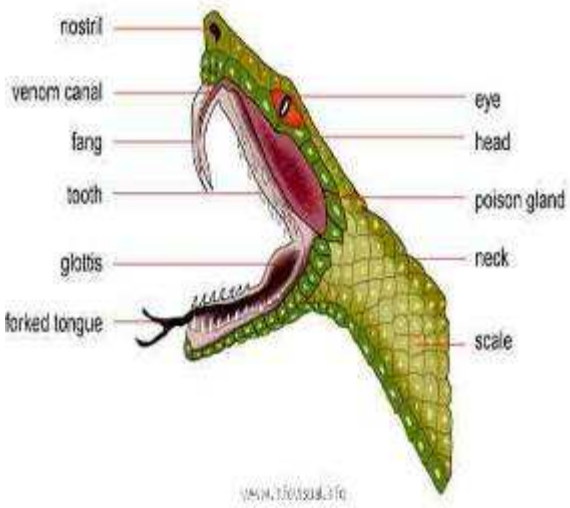
- *If the bite is on the arm or leg, apply a constrictive bandage 4 – 5 inches on the heart side of the bite tight enough to obstruct and stop the flow of venom to all parts of the body. Don't tie it too firmly. Constrictive Bandage should be released once in 20 minutes for at least 2 to 3 minutes.*

- *Wash the wound with soap & water. Flush the wound with a lot of water.*
- *Apply Potassium permanganate crystal powder on the bite and thoroughly wash the wound.*
- *Cover the wound with a sterilized dressing.*
- *Get medical aid or send the person on a stretcher to the hospital as quickly as possible. If the snake has been captured, carry it to dispensary for identification.*

6. Illustrative snaps of training

Few snaps of poisonous snakes

Snake witnessed at Sobha Carnation



Morphology of Venomous Snake

Attendees at the training

QST personnel explaining the First aid treatment for Snake bite

Module Head Bharamanagouda watching the training

Module Head Bharamanagouda providing useful information regarding snake bites

Module Head providing the contact number of snake catcher	*Facts & information used to explain first aid for snake bite to attendees*

7. Do's & Don'ts

- *Do not panic, remain calm.*
- *Do not walk or run, shout for help when alone.*
- *Do not take liquid or solid food after being bitten.*
- *Do not apply ice or cold compression over the wound.*
- *Do not suck poison using mouth, it's strictly not advisable & any cuts in mouth or lips could transfer the poison.*
- *Superstitious methods like chanting of mantras, applying of charming stones on the affected part will not provide any aid to treat the poison.*
- ***Do not kill snakes, its liable for legal action, can lead to imprisonment as per - Wildlife (protection) Act 1972***

8. Conclusion

It is very important that people at grass root level (unskilled laborers) are made aware about snake bites. Snake bites can be treated effectively if one has a presence of mind and is aware what is to be done. It is unethical & criminal offence to kill a snake. Remember, it is we who are trespassing into their territory & not the snakes. All the attendees were provided with the contact number of the snake catcher local to the area & were advised to contact him in

case of any snake is spotted inside the colony or the site instead of trying to kill them which is an offence.

THANK YOU

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Safety Park for PPE violators & New Workers

QST
QUALITY SAFETY TECHNOLOGY

Department of Quality Safety & Technology

Key Idea:

Mr. Bharamana Gouda (DQM)

Coordinated By:

1.) *Dinesh B Saran – Project Manager*
2.) *Samadhan Gore – Stores*
3.) *Rajput – Lab Assistant*
4.) *Nafees & Team – Carpenter (*

Developed & Compiled By:

Mr. A. Vijay (Sr. SE)

Module Head: Bharamana Gouda *Site Name: Carnation, Pune*

Module # IV *Date: 28th July 2009*

Contents:

1. Introduction

Personnel Protective Equipment (PPE) though considered as secondary to Engineering Controls, is a very important factor in up keeping the safety of workers in construction industry. So it is not only necessary but also very important that every worker of this industry is well aware of the different kinds of PPE & its importance in safeguarding his life.

Hence with this idea in mind, the concept of establishing a safety park as a platform to display all PPE's at a single point used in our project came into being.

2. Purpose

These PPE's are life saving devices, very much essential whenever we have to limit or mitigate a certain type of hazard having the potential to cause injury or fatality to the life of a worker. There exist many violators of this protocol & new workers entering the domain of construction industry who are either not aware of the different PPE's or else not aware of its importance. It is with this purpose that a safety park comprising of all Personnel Protective Equipments on a single platform was established.

3. Tools required

- *Plywood – 4ft X 8 ft (2No's)*
- *Thermocol Sheet – 2No's*
- *Scaffolding – Cup lock system*
- *Hard hats (helmets)*
- *Nose mask*
- *Full body harness*
- *Half body harness*
- *Ear muff*
- *Safety goggles*
- *Half gum boots*
- *Full gum boots*
- *Identity card*
- *Safety net – 3X10 Mtrs*
- *Rubber hand gloves*
- *Leather hand gloves*
- *Wooden runners*
- *GI sheets*

4. Step by Step procedure (With required explanation & Photograph)

1. 3X2X3 mtr(lXbXh) enclosed scaffolding system needs to be assembled
2. 2 plywood sheets are vertically hanged to the back drop of the staging
3. small nails are then driven into the plywood sheets at required spacing to hang different PPE's
4. Labeling of the **"SAFETY PARK"** is done using Thermocol sheets.
5. Labeling of different PPE's are put up just above the PPE's
6. The top of the safety park is covered with GI sheet to prevent rainfall & heat.
7. The entire scaffolding set up is enclosed using safety net to restrict access & guard the PPE's.

5. Snaps of the Safety park & Its Implementation

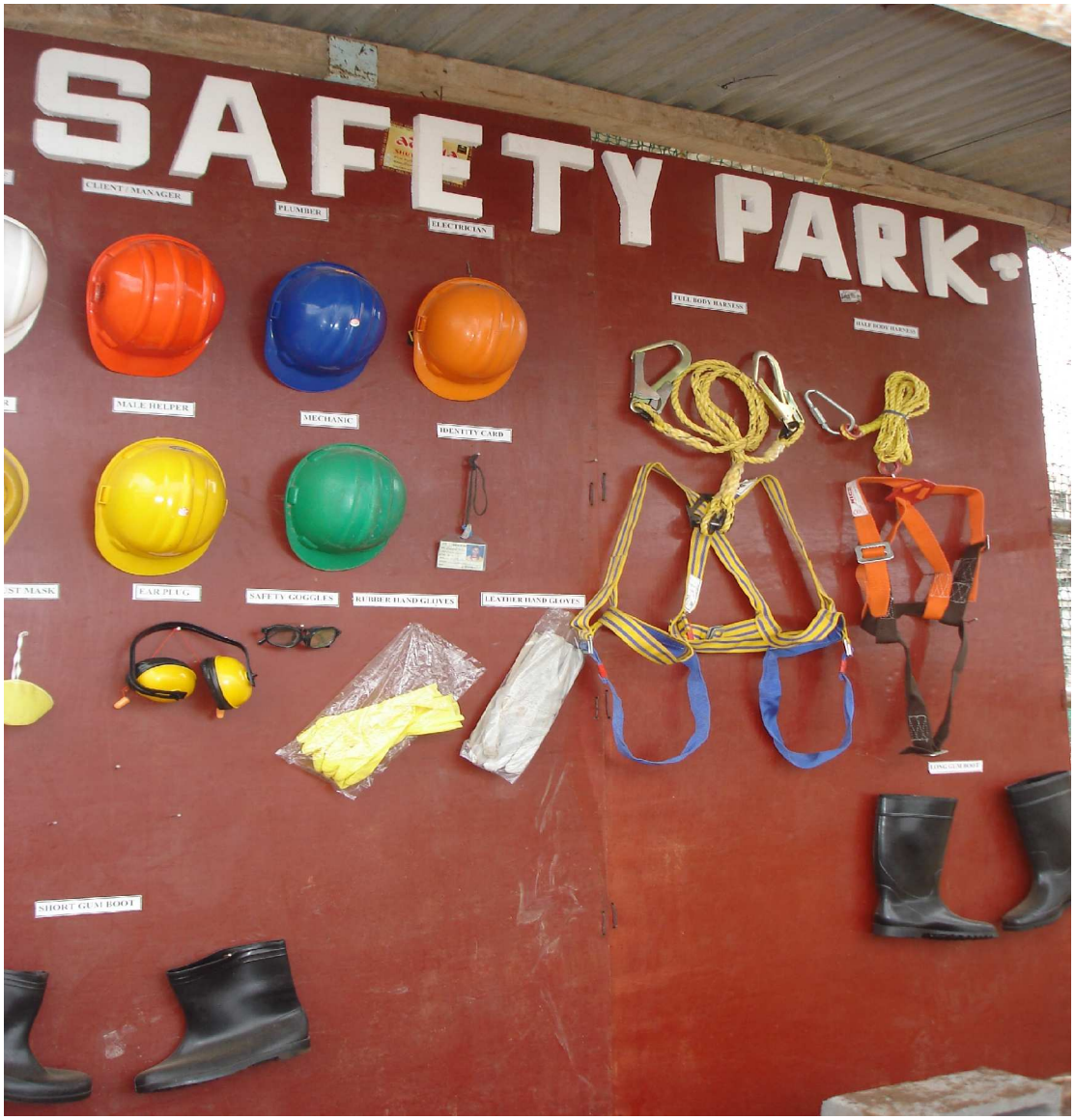
GI Sheet above wooden runner for top cover

Safety net encased around scaffolding

Different PPE's hung on plywood

Scaffolding System

Plywood at the back drop of scaffolding



In order of appearance:-

a. *White helmet – Staff/ Engineer*
b. *Red helmet – General Manager / Client*
c. *Blue helmet – Plumber*
d. *Orange helmet – Electrician*
e. *Yellow (load ring) – Female labor*
f. *Yellow helmet – Male labor*
g. *Green helmet – Mechanic*

COLORCODING

h. *Identity Card – Safety protocol (must for entry into site,, hence added)*
i. *Dust mask – Respiratory hazard*

j. *Ear muff – Noise hazard*
k. *Safety goggles – Eye protector*
l. *Rubber hand gloves – Chemical & Electrical Insulation*
m. *Leather hand gloves – For grip & prevent abrasion*
n. *Full body harness – Fall hazard*
o. *Half body harness – Fall hazard – (to be phased out & replaced by full body harness)*
p. *Half gum boot –* *For concreting*
q. *Full gum boot -*

QST Personnel informing about the different kind of PPE used in the project & its importance to new workers / violators

6. Advantages

- *All the workers will be aware of the different kind of PPE's used*
- *Awareness & the importance of PPE for new workers can be easily conveyed.*
- *An effective method to reduce PPE violations by work force*
- *No additional cost since the same is available for the project & can be reused for every project*

7. Acknowledgements

- *Mr. Bharamana Gouda (Module Head) – For Idea & inputs*
- *Mr. Dinesh B Saran (Project Manager) – For initiation*
- *Nafees Khan & Team – Carpenter team – For assembling the park*

Thank you

SOBHA DEVELOPERS Ltd

Report on Awareness Regarding Swine Flu

Department of Quality Safety & Technology

Organized & Compiled By:

Mr. A. Vijay (Sr. SE)

Coordinated By:

5.) Dinesh B Saran – Project Manager

6.) Manjunath SK Rao - Project Manager

7.) Praveen Mahtre – Assistant P M

8.) Basavaraju Empalli – Assistant PM

9.) All site staff, Technicians &workers

Module Head: *Bharamana Gouda* *Site Name: Carnation, Pune*

Module # IV *Date: 11th Aug 09*

The awareness program lasted from 12:45 to 13 :15 Hrs

Contents:

1. Introduction

Swine Flu, a contagious respiratory disease previously attributed to a virus outbreak in Pigs has resulted in worldwide pandemic. Though its origin was traced to western countries, it suddenly established its presence in India, & Pune was one of the foremost cities to be its target. Since this disease was unheard of before, it was a very challenging task for anyone to understand the behavior & consequences of this disease. Hence it was

very important to create awareness regarding the symptoms of this deadly disease among the site workers to prevent the widespread panic & arrest any unrest prevailing upon the minds of the large base of unskilled workers. It was also the organization's responsibility to tackle this menace & escape being a helpless victim of this deadly disease.

2. Purpose

It was a panic situation for residents of Pune when deaths started occurring due to Swine flu influenza, more commonly known as Swine flu H1N1 came to be reported. The situation was no different among our workforce. Everybody started wondering what was all this about. Many questions & doubts were arising in the minds of the people who were ignorant so far. Most of them felt that it was safe to travel back to their native land, reason being that the virus / disease had not made its presence there & people started believing that they would become a victim of this deadly disease if they chose to stay back here in Pune.

Hence our Organization being a responsible corporate real estate player & committed to the safety & welfare of the workers decided to create awareness, provide information & Prepare, organize ourselves to prevent & brace ourselves & fellow workers against the deadly disease.

3. Briefing about Swine Flu (H1N1)

Swine flu is a respiratory disease of pigs first described in the 1930s and while historic transmissions to people have been "sporadic", the human infection rate is rising. In humans, the swine virus exhibits symptoms of regular human flu, including fever, cough, sore throat, body aches, headache, chills and fatigue. The outbreak began in Mexico. It is suspected to have entered the Indian regions in June 2009. So far around 221 persons have been affected by the virus in Pune & over 5 deaths have been reported so far in Pune alone-(as on 11th Aug 09).

4. Symptoms in Adults

- *Difficulty in breathing or shortness of breath*
- *High fever*

- *Pain or pressure in the chest or abdomen*
- *Sudden dizziness*
- *Body Aches*
- *Sore throat*
- *Confusion*
- *Severe or persistent vomiting*

5. Symptoms in Children

- *Fast breathing or troubled breathing*
- *Bluish color skin*
- *Not drinking enough fluids*
- *Not waking up or not responding*
- *Being irritable that the child does not want to be held*
- *Fever with rash.*

6. Preventive measures to be taken in case of symptoms identified

The assembled workers were imparted with the below information.

- *Cover your mouth & nose when coughing and sneezing, use a tissue/napkin. Dispose tissue/napkin properly*
- *Wash your hands regularly with soap & water, especially after sneezing or coughing.*
- *Avoid touching your nose, eyes or mouth, infection spreads easy & quick this way.*
- *Clean surfaces likely to be touched while handling, example :- Door knobs, taps,*
- *Wash utensils & plates used for cooking & eating food*
- *If ill keep away from others. This is to prevent the spread of disease*
- *Drink lot of fluids, to keep away from being dehydrated*
- *People identified with symptoms of swine flu should be potentially considered contagious as long as they symptomatic & possible for up to 7 days following the onset of illness.*

- *If the symptoms persists for more than 2 days immediate medical advice & line of treatment for suspected swine flu to be made available.*
- *Stay home for at least 24 hours after fever is gone, Seek medical attention for proper clarification. Fever should subside without medication*
- *Avoid unnecessary traveling, avoid gathering in crowds & contact with sick people.*
- *Wear nose mask while interacting with symptoms of flu patients & in public places.*

7. Snaps of the Awareness Training

Workers gathering at safe assembly point before the start of the training

QST personnel addressing the gathering regarding swine flu H1N1

Project Manager, Mr. Dinesh B Saran addressing the gathering & providing useful info regarding Swine Flu

Workforce listening attentively regarding the details & information being shared

Project Manager Mr. Dinesh B Saran, clarifying doubts of the gathered workforce

Work force taking preventive measures by wearing nose masks can be seen.

8. Conclusion

During the awareness session, the workers were told about the organization's commitment to tackle the menace.

- *They were distributed with free nose mask to prevent the contagious disease.*
- *Our project had made arrangements for isolated rooms for any suspected cases & persons if identified with symptoms.*

- *The driver for our project was specifically informed to address any call for help / transport round the clock for shifting suspected victims*
- *The in house first aid center male nurse was advised to keep QST & the project head in loop of any suspected symptoms & to make daily visit to the colony to take stock of the situation.*

After the information sharing, the workers were relaxed & the anxiety on their faces was less visible & now that they were aware of the steps to be taken to tackle the menace, they were more confident.

9. Acknowledgements

Mr. Umesh V (Admin department) *- for organizing Nose mask & information about H1N1*

Mr. Dinesh B Saran (P M) *- For initiating the awareness & making arrangements for labor*

All site staff, Contractors & workers *– For participating in the awareness program*

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Thank you

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Granite Yard Safety

Contents:

- **Introduction**
- **Summary of Accidents**
- **Granite size, dimension & weight**
- **Granite Yard**
    1. The size / dimension of the "A" Frame
    2. The angle of reclining for stacking a Granite slab
    3. The distance between each "A" Frames
    4. The Maximum number of slabs per "A" Frame
- **Common Mistakes while stacking granite**
- **Unsafe granite stacking practices – signage**

Introduction

The recent spate of accidents (3 major accidents in 2 months) happening in SDL projects due to stacking, handling & shifting of granites is a cause of great concern as they are resulting mainly in fracture of legs to workmen, causing temporary disability with increased "lost man days" .The accidents are happening due to improper stacking procedures, lack of control measures and carelessness of the workers concerned. Hence to prevent repetition of similar accidents in future, it is necessary that we have an action plan to mitigate the risk.

Summary of Accidents

Project	Date	Description	Nature of Injury	Cause
Petunia	9-Aug-10	Falling of Granite Slabs	Fracture of leg & Muscle cut	Improper Stacking of granites supported on wooden runners & overloading of granite slabs
Chrysanthemum	11-Aug-10	Falling of Granite Slabs	Fracture of Feet	Improper stacking & Improper handling
Amethyst	13-Sep-10	Falling of Granite Slabs	Fracture of heel	Improper handling

Granite size, dimensions & weight:

The average density of granite is 2600 Kgs / cubic meter and 1 sq feet of granite of 20 mm thickness weighs up to 4.7 Kgs, Approx

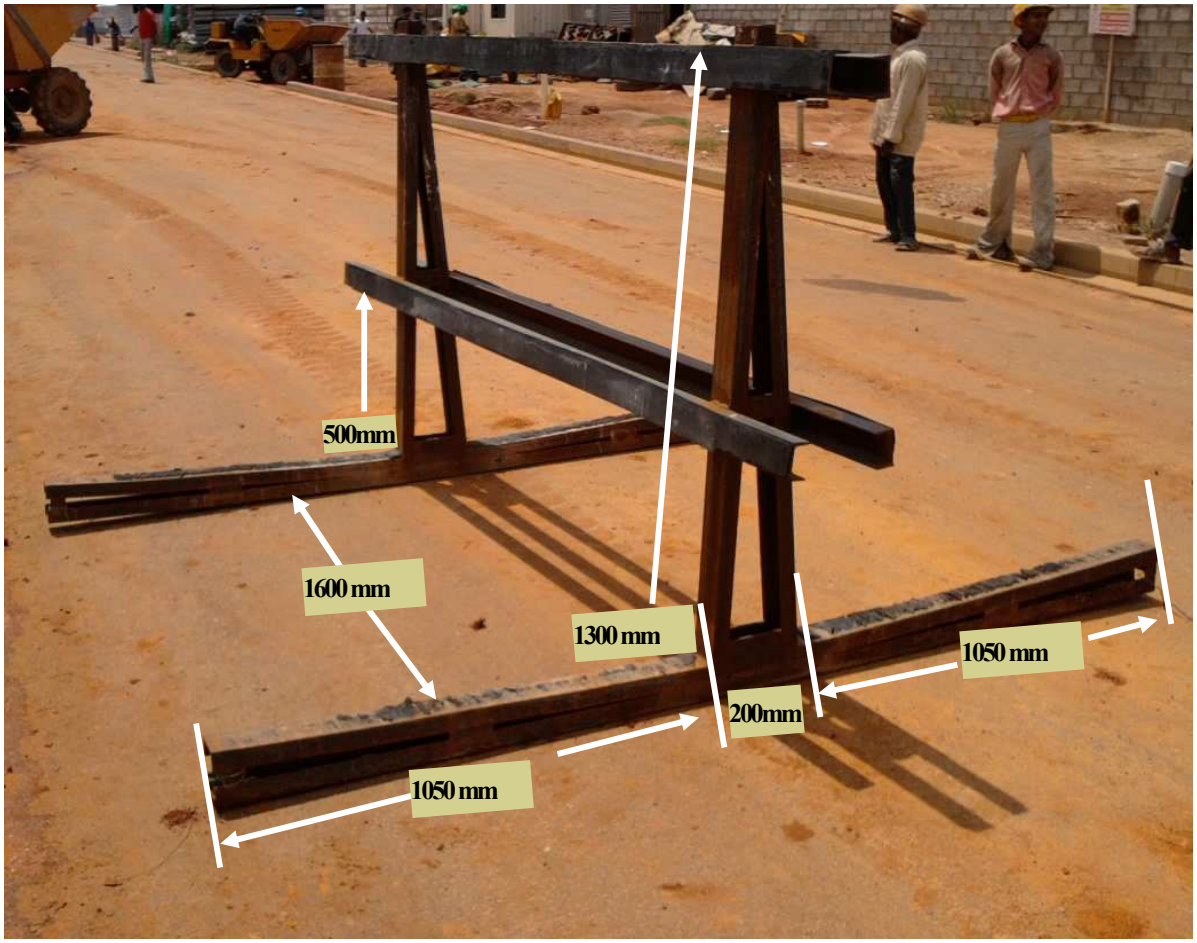
The below tabular column helps understand the weight of the granite based on different dimensions and recommended number of workers for lifting different granite slabs

Length (feet)	Width(feet)	Thickness(mm)	Weight (Kg's)	Recommended No of persons for lifting
10	9	20	421.2	9
8	10	20	374.4	8
10	6	20	280.8	6
6	9	20	252.72	5
8	6	20	224.64	4
10	4	20	187.2	4
4	7	20	131.04	3
4	6	20	112.32	3

Granite Yard:

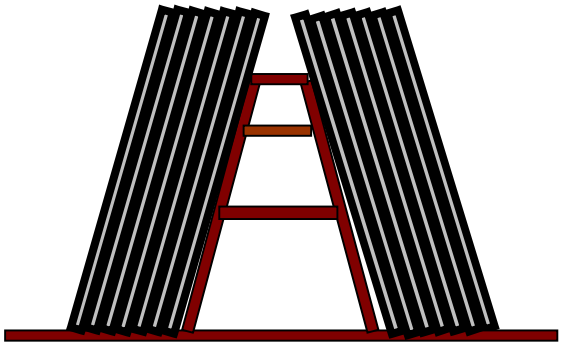
Granite slabs are processed into different slab size generally of 20mm thickness. Granite stones are stacked into "A" Frames made of MS material and then later shifted to work spots for cutting and polishing. Hence it is very important that we have a standard procedure to stack granite slabs in a granite yard to avoid accidents occurring due to shifting & handling of granites. The following things are important while stacking the granite

- **The size / dimensions of the "A" Frame**



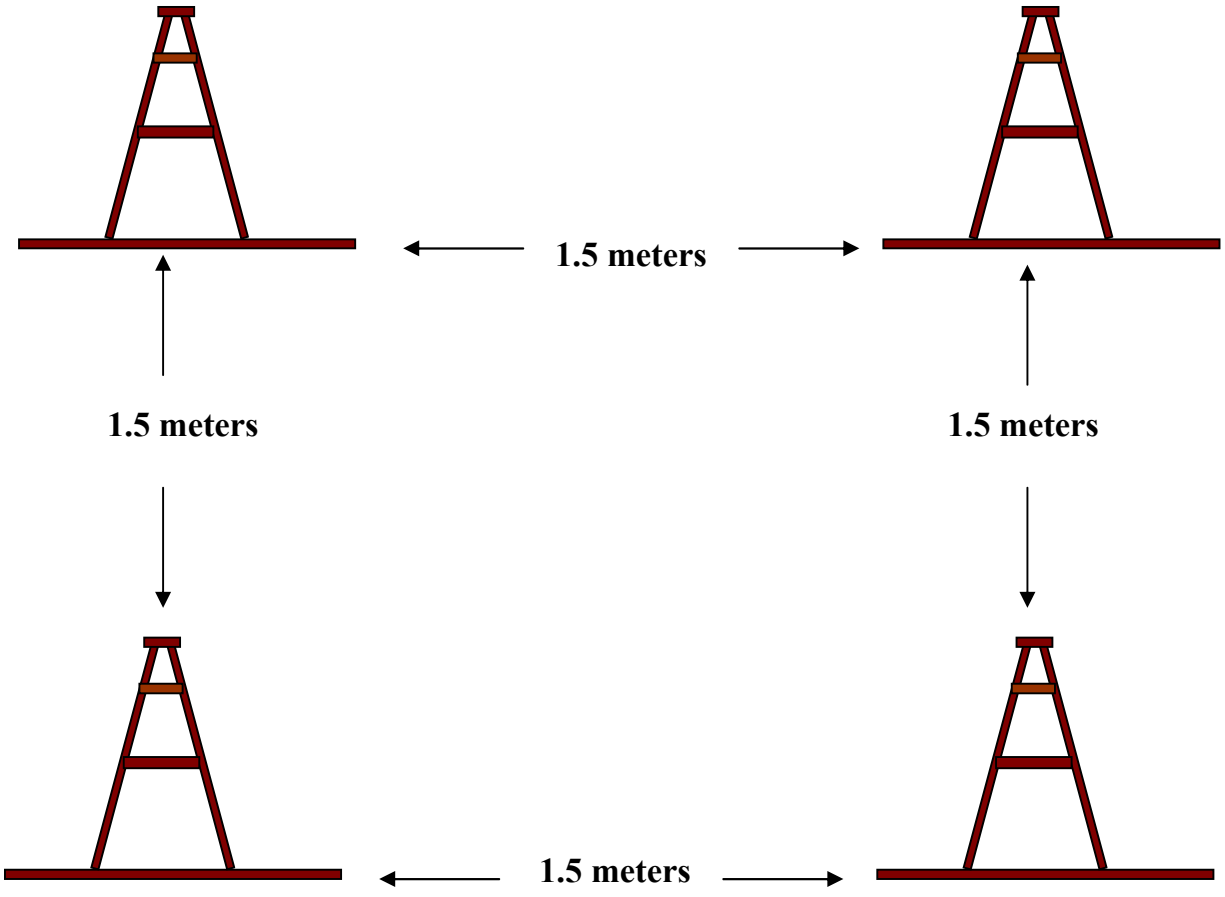
In the above picture the standard dimensions about the different components of "A" Frame are given.

- **The Angle of reclining for stacking a Granite slabs**



The Granite should be stacked at an angle of **120** degrees in a reclining position towards the "A" Frame

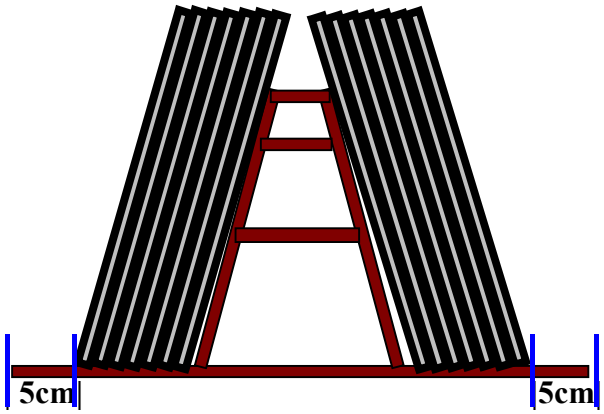
- **The distance between each "A" Frame**



→ The distance clearance between each corresponding "A" Frame should be at least 1.5 meter to avoid congestion & overlapping of granite slabs while shifting

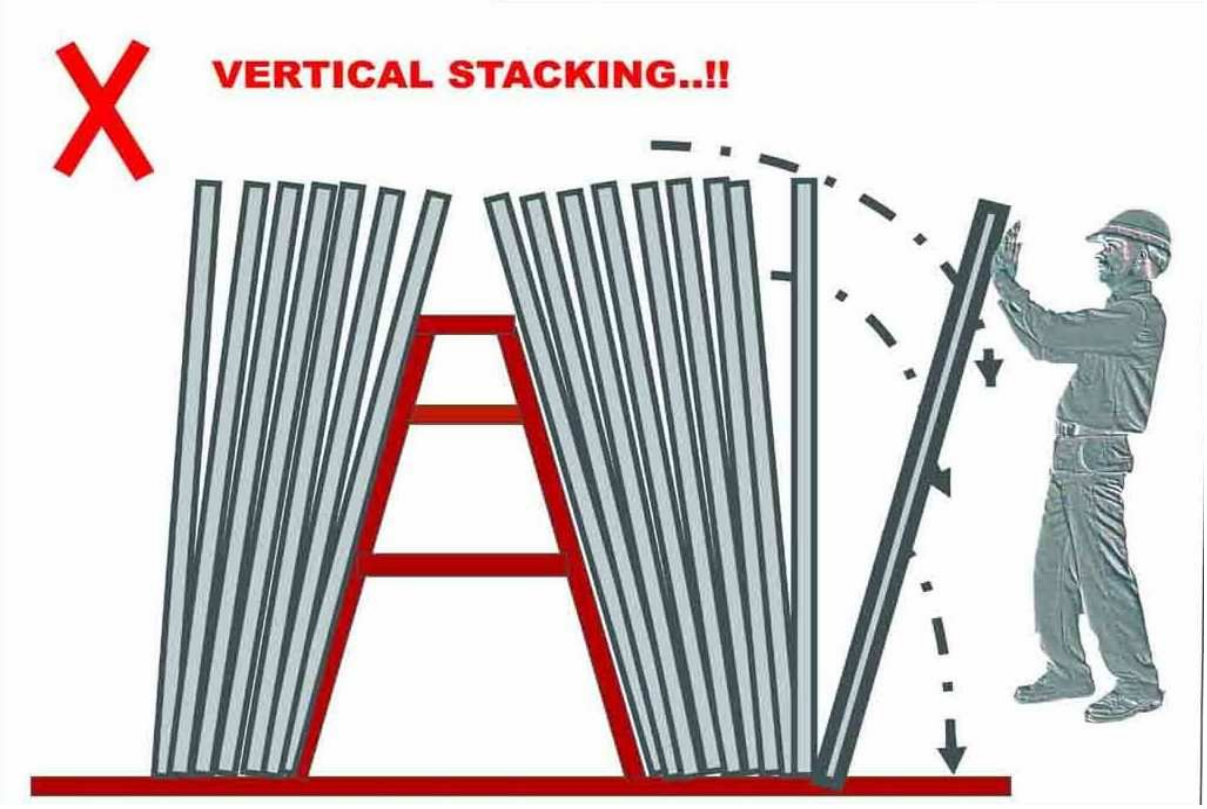
→ All "A" Frames should be properly placed on a level & compacted surface

- **The maximum number of slabs per "A" Frame**



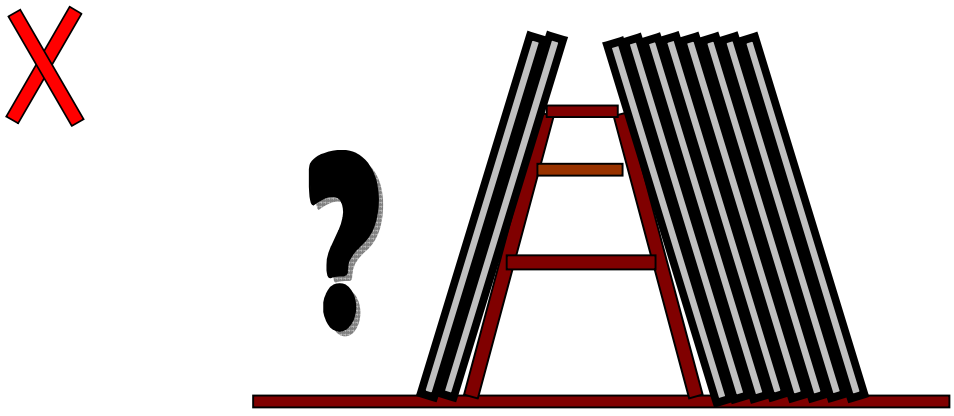
→ The number of Granite slabs to be stacked per "A" Frame should be such that, the distance between the last slab and the edge of the base of "A" frame on either side should have a minimum clearance of 5 cm

Common Mistakes while stacking Granite

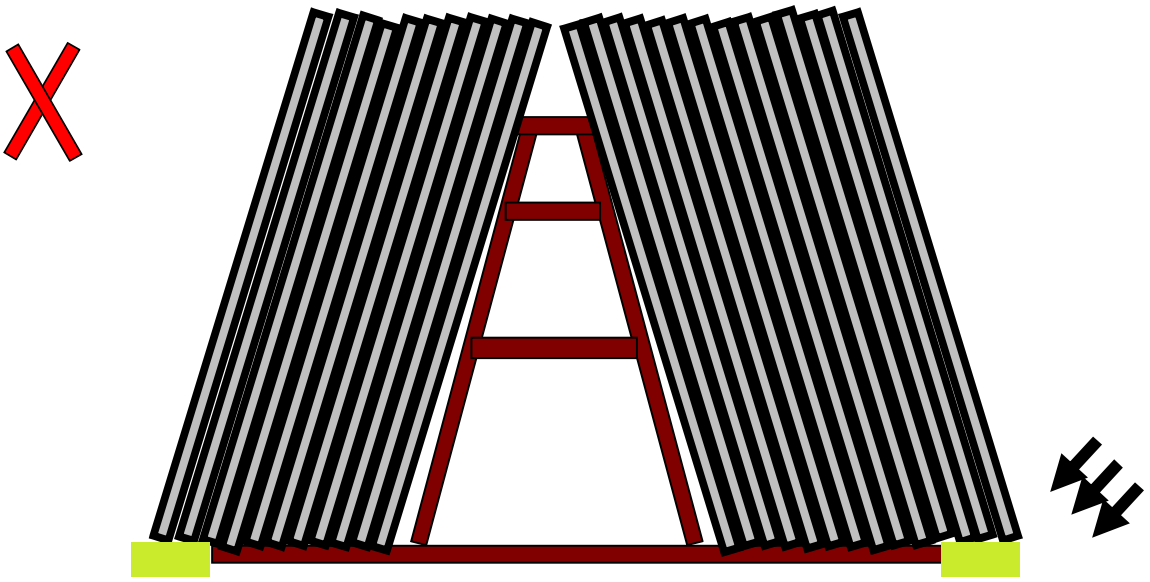


- Stacking of granite in a vertical manner without reclining can result in the
- granite slab falling upon workers and thus cause serious injuries to workmen

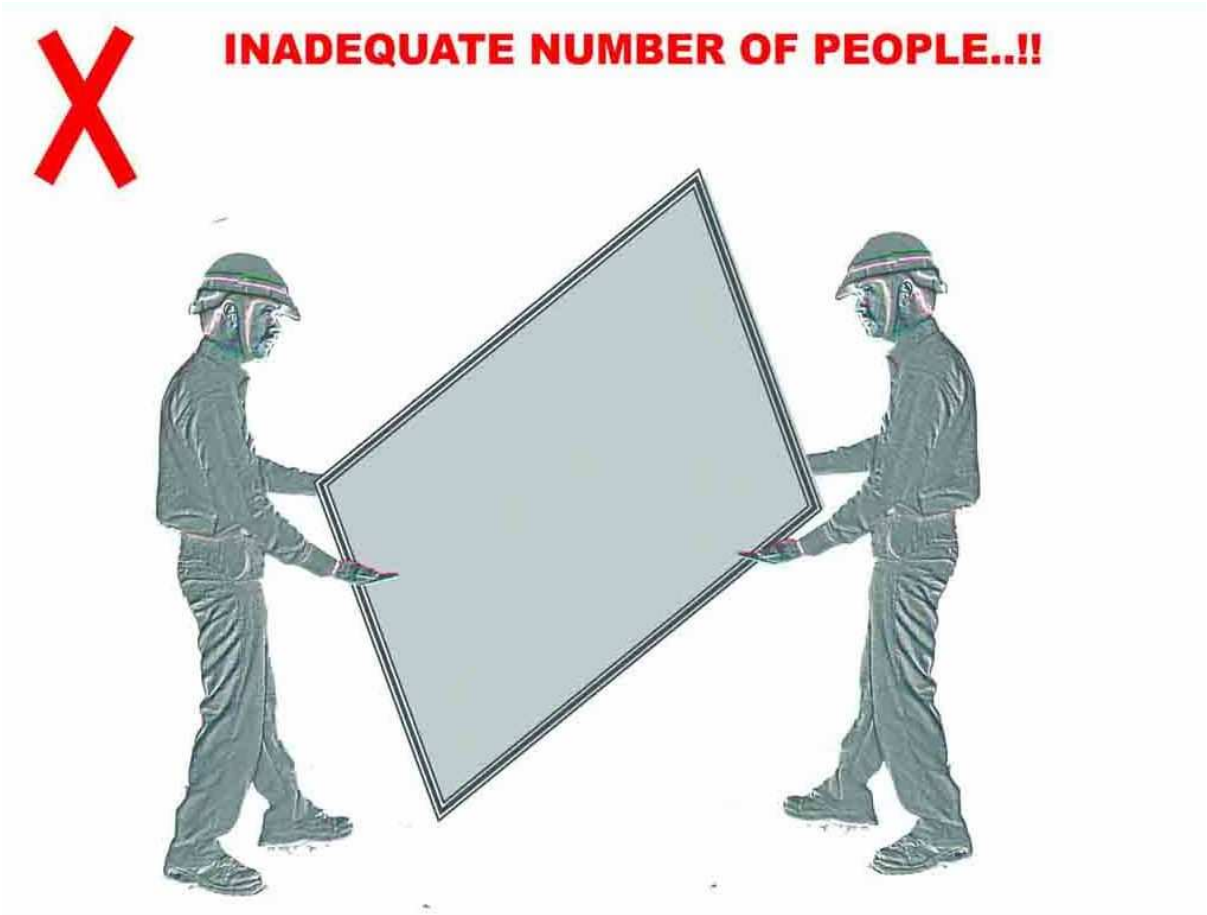
- Stacking of granite with extreme slope can cause the granite slab to skid and can hit the legs of workers



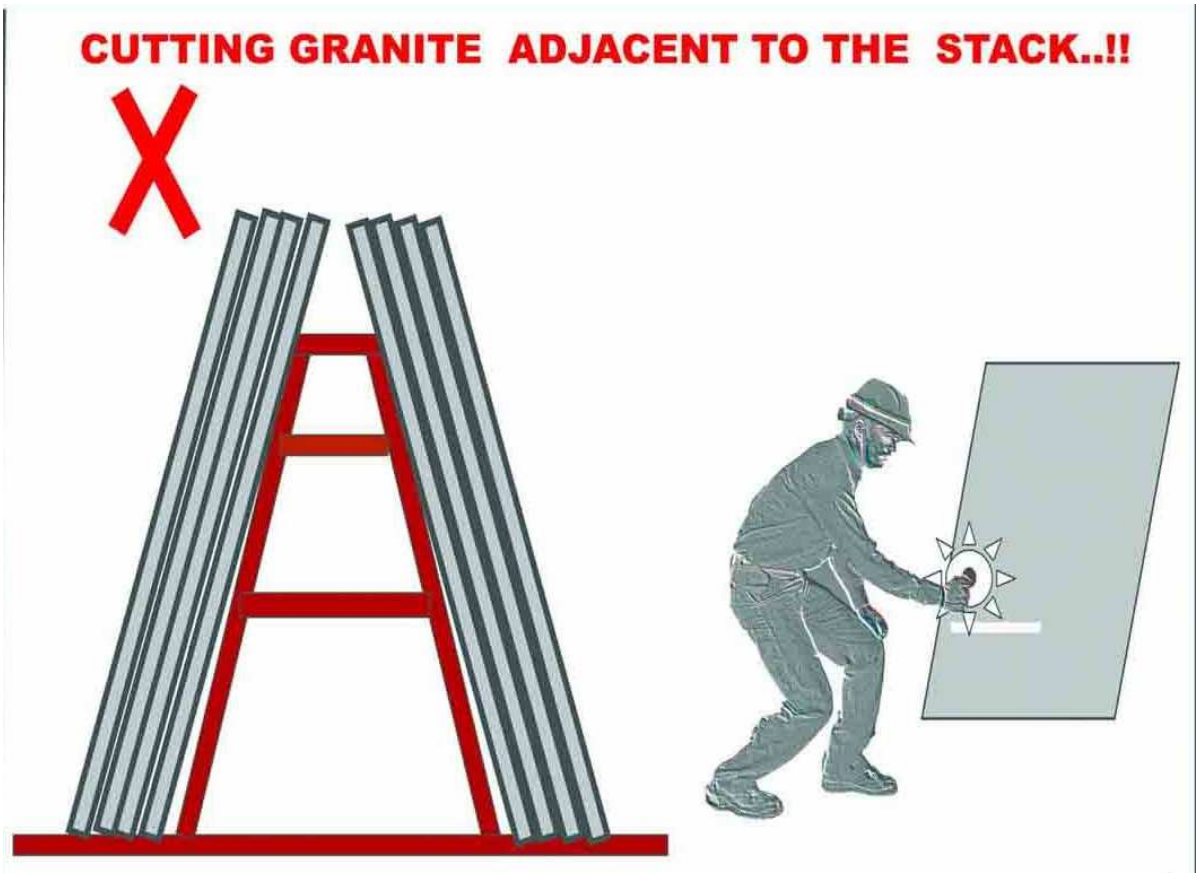
- Granites being stacked unequally on the side sof the "A" Frame, this can result in off balance and overloading.
- The maximum difference between number of slabs on both sides should not be greater than 2



- Overloading granite slabs on "A" frame by extending them beyond the base of "A" Frame using wooden runners. This can result in damage to Granite and does not give a proper grip to handle granite

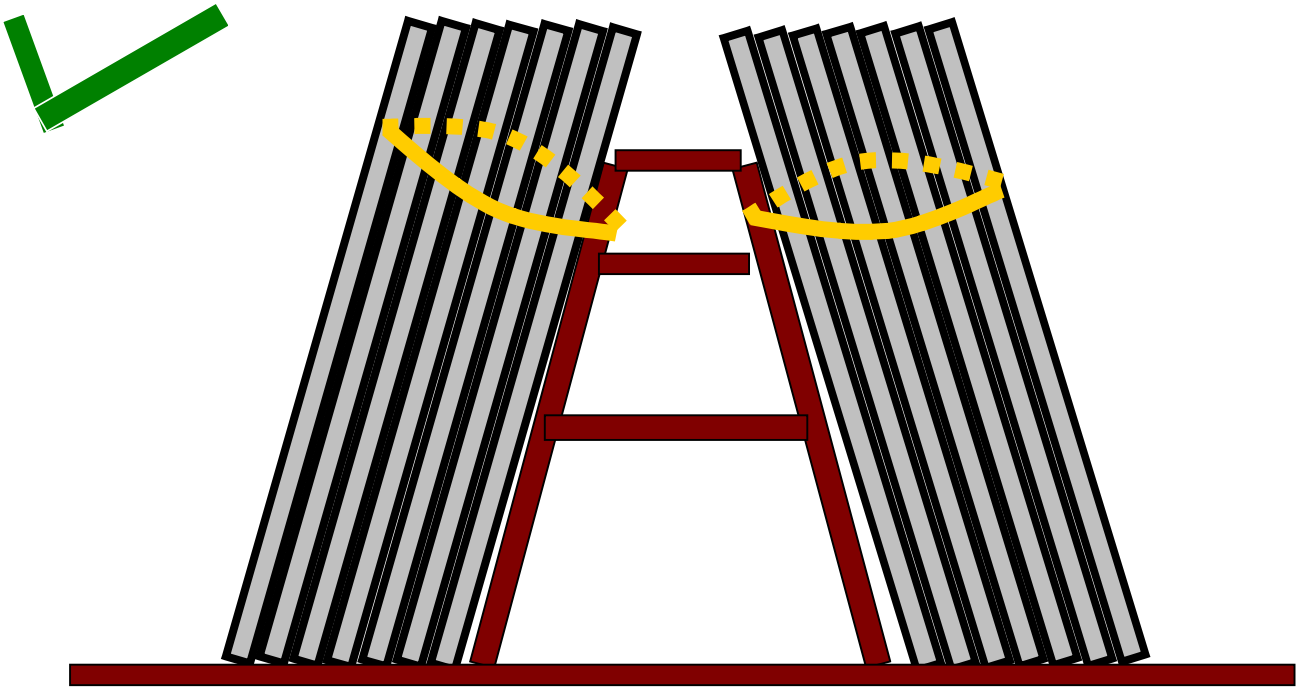


- Improper handling of granite – less number of workers handling large slabs can result in injuries to the lower limb due to excessive weight of the granite slabs
- Load limit of 50Kgs per person to be engaged while shifting Granite slabs



Cutting & Polishing of granite should not be done in the stacking yard or next to "A" Frames

Safe Stacking Procedure

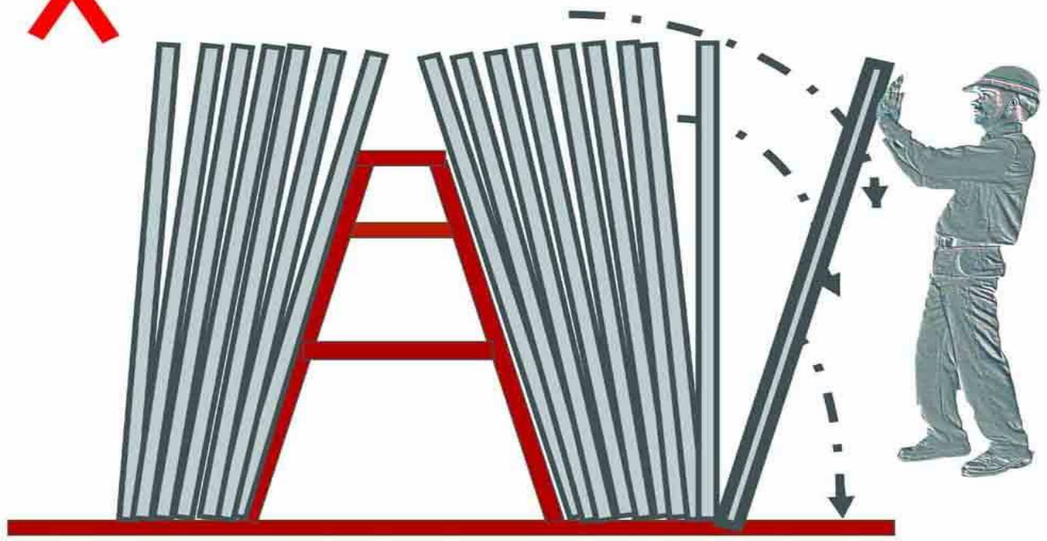


- The slabs (granite or marble) are stacked and tied on mild steel "A" Frames, care Should be taken to avoid any breakages during unloading
- Ensure that there is a distance clearance of at least 5 cms between the edge of base of "A" frame and the last slab on each side
- Equate the stack weight on either side of the MS "A" Frames during loading, stacking, and unloading
- While stacking the marble or granite slabs, the polished surfaces should come in contact with each other.
- Ensure that all marble / granite cutting works are done at a place away from the marble stacking area
- Within the site the granite / marble slabs shall be transported on platform trolleys,
- Slabs of different quality, size and thickness shall be stacked separately
- The granite shall be reclined properly towards the slope at a degree not less than 120

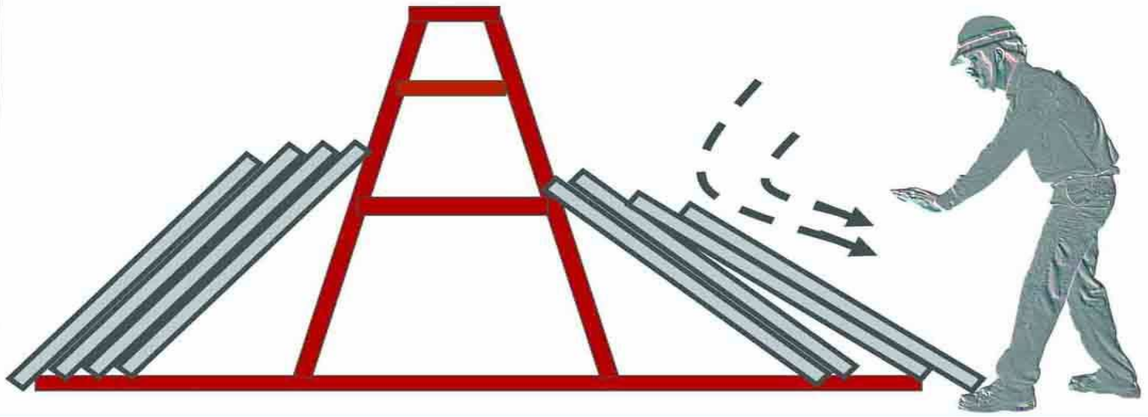
- The slabs shall be bound by a rope and properly secured to the "A" frame on both sides
- Adequate & trained manpower shall be engaged while shifting the slab from the "A" Frame
- Mandatory wearing of PPE's like safety shoe, hand gloves, goggles & nose masks should be ensured.
- Separators like gunny bag (As per IS standard IS:8348 – Code of practice for stacking and packing of stone slabs for transportation) between each slab should be provided to avoid sticking of granite slabs due to moisture and vapour

UNSAFE GRANITE STACKING PRACTICES

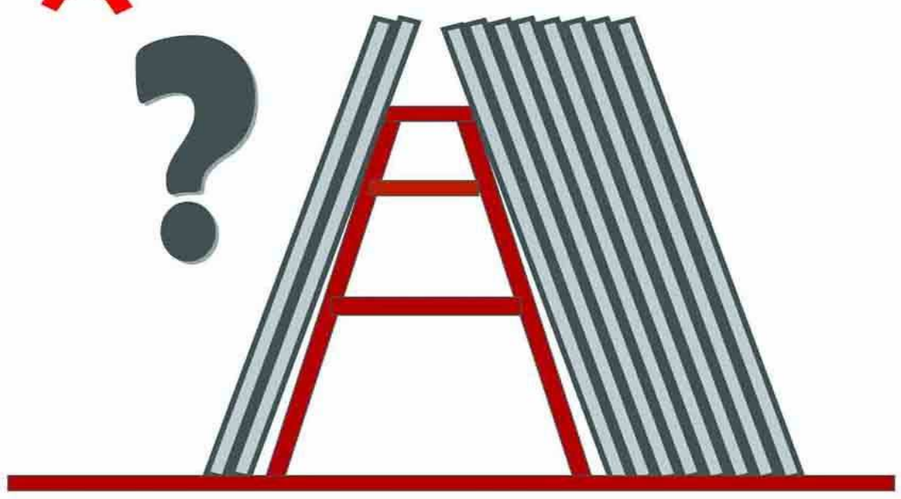
VERTICAL STACKING..!!



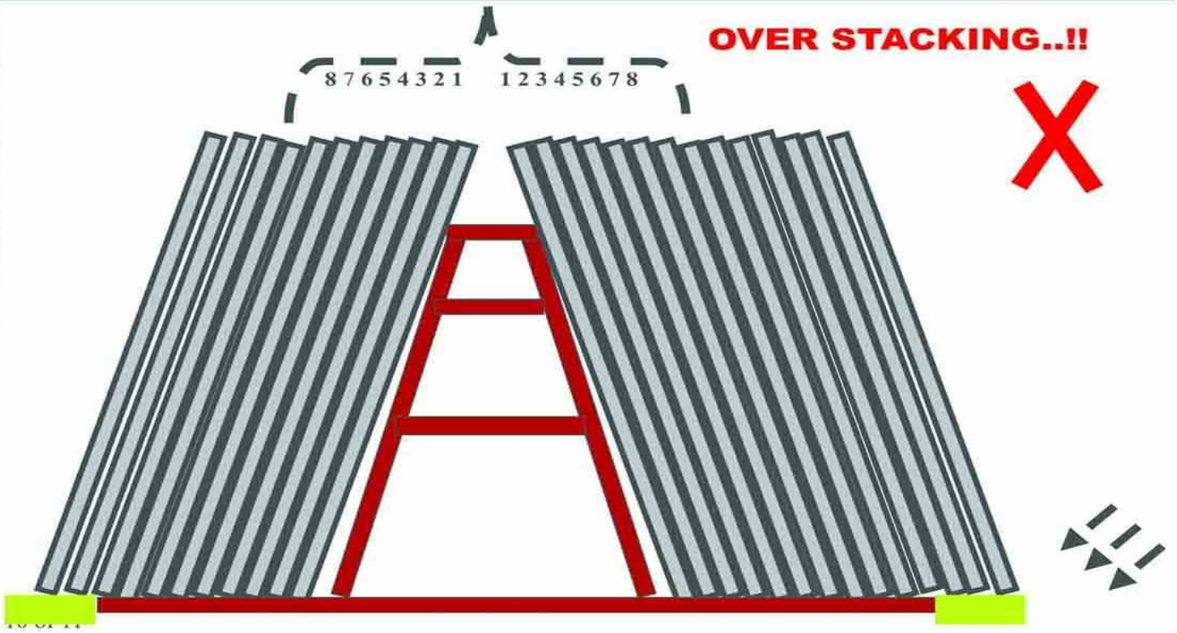
ACUTE STACKING.. SLIPPING GRANITE..!!



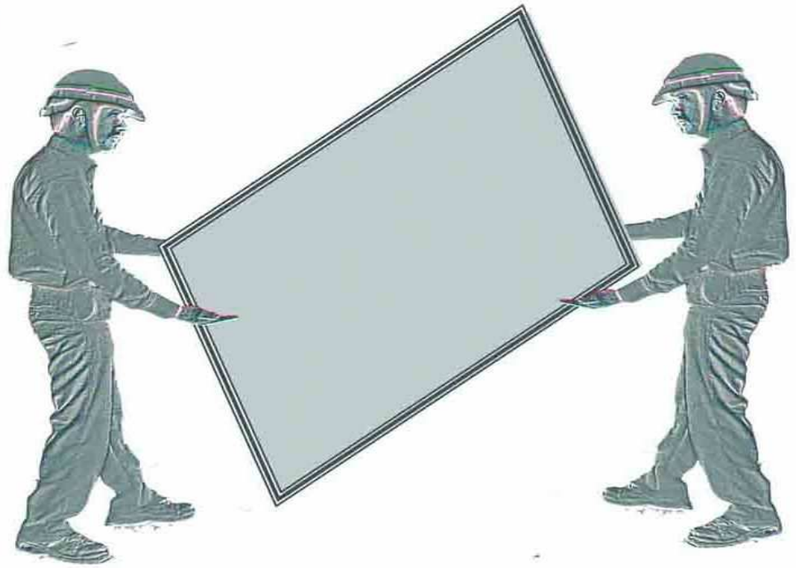
UNEQUAL STACKING..!!



OVER STACKING..!!

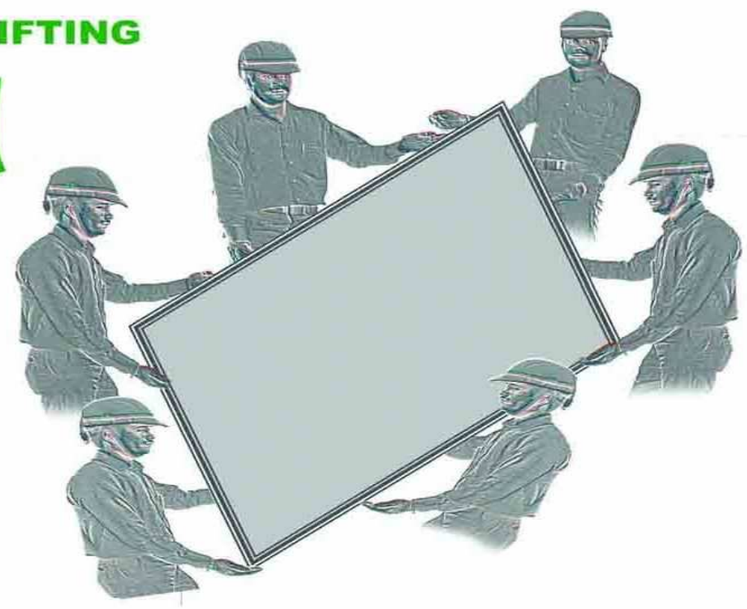


INADEQUATE NUMBER OF PEOPLE..!!

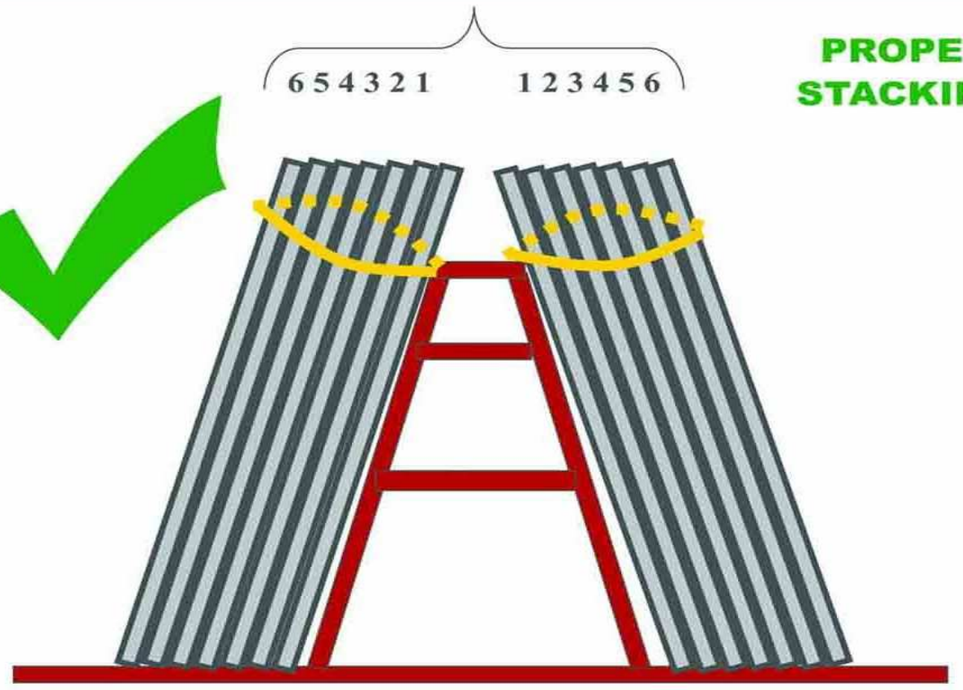


CUTTING GRANITE ADJACENT TO THE STACK..!!

PROPER SHIFTING



PROPER STACKING



SOBHA

PASSION AT WORK

SOBHA DEVELOPERS Ltd

Sobha Cinnamon & Saffron

Implementation of Scaffold Safety Symbol

QST

QUALITY SAFETY TECHNOLOGY

Department of Quality Safety & Technology

Concept & Idea By:

Mr. Raghu Balan (CEO)

Implemented By:

Sobha Cinnamon & Saffron Team Members

Contents

Introduction

The scaffold is an elevated temporary platform used to execute works at height. The predominantly associated hazards while executing work on scaffold are, **Fall from height & Falling objects**. This often leads to major accidents and injury resulting in physical disability of the worker and sometimes even leading to fatality too. Often workers do not have an idea whether the scaffold on which they are supposed to work is safe to work or is incomplete and unsafe. Hence it is not only important to have a safe scaffolding system in all respects but also the worker should be able to identify whether the scaffold is safe & fit to use or should desist from working when the scaffolding is unsafe or incomplete.

Hence having an easy to identify symbol which could be recognized across all section of workers including laymen is the objective of this Implementation

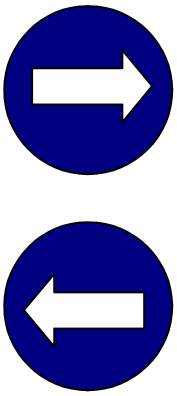
Existing System:

Currently we have existing signage board which indicates if a scaffold system is incomplete or unsafe. This symbol is easily understood by Engineers, Supervisors and Safety personnel and few skilled labors, but the unskilled labors and few laymen may not be able to understand these symbols. Also this symbol does not indicate the boundary or extent to which the scaffold is unsafe and we do not have a symbol to indicate that the scaffold is safe from all aspects and fit to use.

➔ Existing Signage board

New System:

To eliminate the anomalies of the previously existing system, a new “easy to identify “symbol for both Safe scaffold system and Incomplete / Unsafe scaffold system has been devised which are not only easy to identify by all work force but also the implementation indicates or clearly demarcates the area of scaffolding, whether be it safe or unsafe / incomplete.



- The new symbol is easy to identify and simple
- The new symbols are put up at the site in 3 different languages.
- The arrow signage boards are used to indicate the boundary or the area of the scaffold for both safe and unsafe scaffoldings.

Safe Scaffolding System:

- Scaffold erected on sturdy and compacted surface.
- Base plate & runner provided at the start of erecting scaffold.
- Scaffold is 30 Cms away from the edge of the building and parallel to it.
- All horizontal bracings and goose bars are interconnected to scaffold members.
- Safety net tied at every 6 Mtr height.
- Scaffold 10 Mtrs away from Electrical lines
- Supporting with Anchor Pipe and "I" bolt at every 6 Mtr height (German System).
- Working platform made of MS jally and tied at both ends by binding wire.
- Toe board and guard rail provided to prevent falling objects.

Unsafe / Incomplete Scaffolding

- Scaffold erected on uneven and loose surface.
- Base plate and wooden runner not provided at the start of scaffold (for compacted surface).
- Safety net not tied at regular intervals.
- Incomplete scaffold supporting systems.
- Interconnecting bracings and cross bars missing.
- Damaged / dismantled scaffolding.
- Electrical lines close to erected scaffold.

Descriptive snaps & Practical Implementation

Cost factor

Sl	Description	Measurement	Unit rate in Rs	Amount
1	Flexi Print	(1-1/2 X 2 feet)	9	27
2	Wooden Frame for board	(1-1/2 X 2 feet)	15	45
3	Vinyl sticker (Arrow mark	1X1 feet	18	18
4	Misc- Binding wire / hooks etc		5	5
Total →				**95**

The rate mentioned is for 1 single signage board. The frame work can be done at project sites by sub contractor carpenters and can be more cost effective.

Conclusion

The new signage boards are definitely simple and easy to identify. After the implementation of this new system, we can be assured that all section of the workforce will be able to identify safe and unsafe /incomplete scaffolds in project sites. The new signage board was displayed to few unskilled workers at site and they were easily able to identify the meaning of the signage boards. This ensures that awareness regarding safe scaffolding system can be easily propagated to all and thus the safety of personnel's working on scaffolds can be definitely ensured.