



NEW MANGALORE PORT TRUST

(An ISO 9001, 14001, ISPS COMPLIANT PORT)

ACCIDENT PREVENTION PLAN

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SAFETY AND HEALTH POLICY:-

New Mangalore Port is committed to provide safe and services related to Seaport and Cargo handling facilities at NMPT, meeting applicable Statutory & Regulatory requirements.

- Employees and workers are our important asset and their safety is our primary responsibility.
- Every employee/ worker is entitled to a safe and healthful place to work.
- To provide safe working place and environment.
- To provide proper machinery, equipment, methods, operations, tools and work environments.
- To identify and investigate health and safety aspects in a professional manner with assistance as required from safety experts.
- To take all reasonable measures to ensure that our port operations has no adverse effects on the environment.
- To fulfill all our obligations, statutory or otherwise, concerning prevention of accidents and maintaining a safe working environment.
- Prevent accidents to persons and property by identifying, evaluating, controlling or eliminating potential hazards.
- Ensuring that each and every individual in the organization as well as the port users and other related agencies respect and implement the port's Safety and Health Policy all the time.

VISION:-

To achieve high productivity by not compromising with Safety and to be proactive and do all possible to prevent accidents .

MISSION:-

Safety will be of top priority at New Mangalore Port Trust. We integrate it with all business processes and cargo handling operations. We will realize our Vision through an Integrated Safety Management approach, which focuses on people, processes, systems, leadership and employee commitment at all levels as the prime drivers for ensuring a safe and healthy work environment.

OBJECTIVE:-

We believe in the philosophy of preventive safety rather than after the fact corrections and we intend to incorporate Safety at the planning stage of any port activity. We place great stress upon safety violations rather upon injuries as such. We are tough towards willful violations, as we are more interested in eliminating the chase for injury by working safely without violations of good practice than in setting records, where we are reasonable but firm on violations, a safety consciousness is gradually developed among the entire workforce.

The occupational safety and health are basically and essential management functions. All employees must accept individual and collective responsibilities in order to achieve this objective.

SAFETY ORGANISATION:-

The Port safety committee is constituted in the port by the Chairman as per the Regulations, the Dock Workers Safety Health and Welfare regulations 1990. The meetings are chaired by an officer not less than the rank of the Dy. Chairman of the Port. The Port Safety Committee consists all the HOD's of all the Departments, Representatives of recognized unions, Associations of stevedores, C&F and steamer agencies, with representatives of nearby industries, who are connected with the port operation, Captive users, PPP operators and Assistant Director(Inspectorate of Dock Safety). The Safety Officer is the member secretary of the committee. The above committee has the overall responsibility of implementing safety procedures/ policies in

the port. The decisions and recommendations of the safety committee shall be complied with by the port authorities, port users and the employees of Dock Workers.

RESPONSIBILITY:-

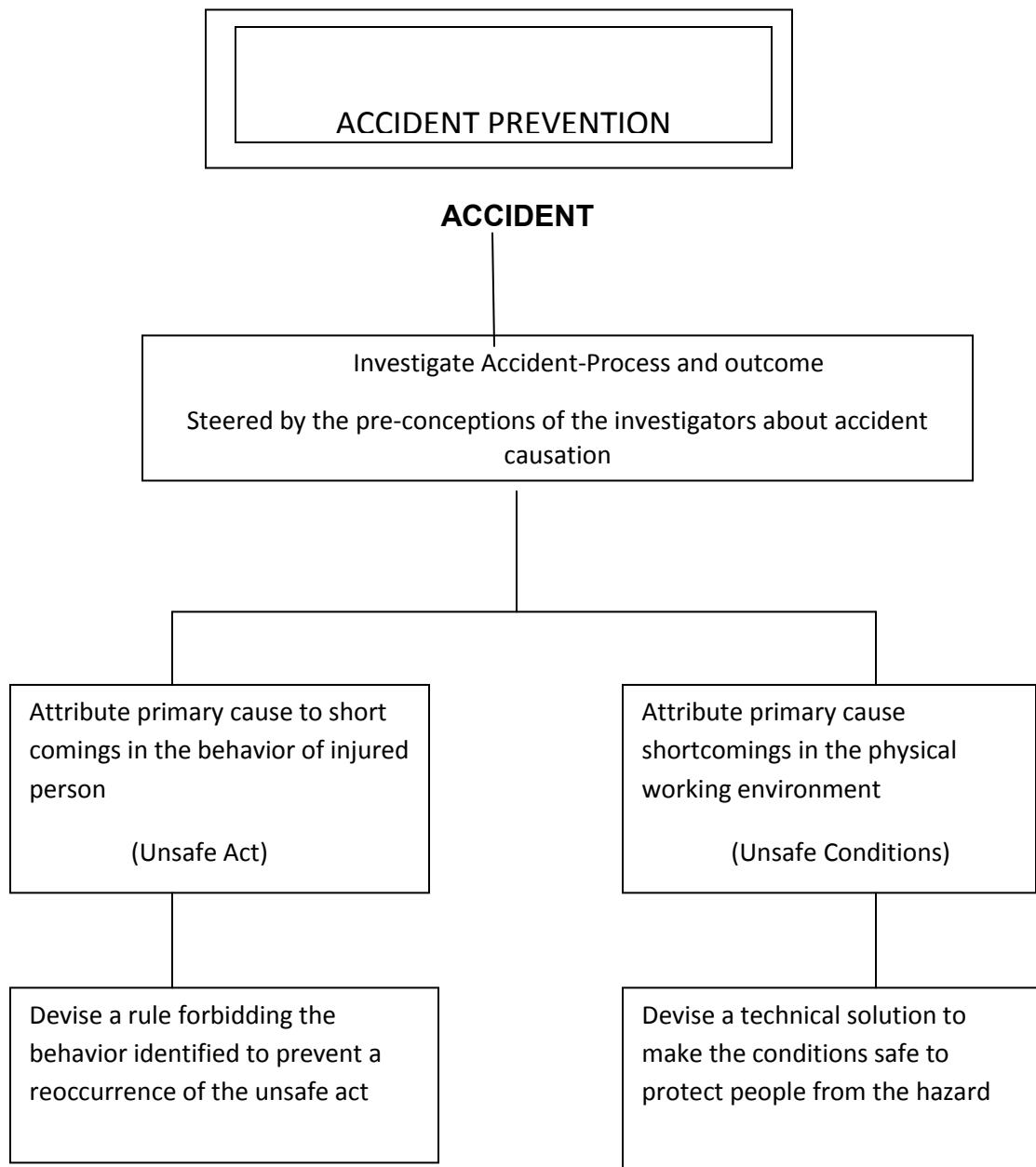
- The responsibility of implementing of health and safety policies lies with the officers , employees and supervisors of all the departments. They have to know what is expected from their subordinates in terms of knowledge, abilities, reliabilities and what methods of the organization, technology and work practices are required to ensure safe working condition.
- The responsibility of safety committee is to ensure that all the employees/ workers are continually informed of the need for effective health and safety measures and clearly explain what is expected of them.
- Every employee/ worker should comply with the instructions and regulations applicable to his area of activity. He bears the personal responsibility for his own safety and that of his co-workers along with port property.
- Regular safety and environment audits will be carried out to ensure that a high standard of safety and environment is maintained in the port.
- Ensure compliance of applicable statutory provisions including Rules and Regulations.

ARRANGEMENTS:-

- To provide a general overview of the different types of accident prevention measures in port today.
- To define the hierarchy of risk control.

ACCIDENT PREVENTION:-

- Requires the creation and maintenance of a safe working environment, and promotion of safe behavior.



To rectify any Unsafe Act and Unsafe Conditions:-

Unsafe Acts	Unsafe Conditions
<ul style="list-style-type: none">• Detailing safety devices.• Operating equipments at improper speed.• Operating equipment with authority.• Servicing equipment in motion.• Using equipment improperly.• Using defective equipments.• Not wearing PPE.• Improper working position.	<ul style="list-style-type: none">• Inadequate guards.• Defective tools or equipment.• Congestion of working area• Poor housekeeping.• Excessive noise.• Poor illumination.• Poor ventilation.

SAFE SYSTEM OF WORK:-

- Eliminates / identify hazards and control others.
- Plan to achieve the controlled completion of work with minimum risk.
- Fundamental to accident prevention.
- Document hazards, precaution and safe working methods.

FRAMEWORK FOR SAFE SYSTEM OF WORK:-

- Safe design.
- Safe installation.
- Safe premises/ Work place.
- Safe tools and equipments.
- Correct use of plant , tools and equipment.
- Proper working environment ensuring adequate lighting, heating and ventilation.
- Trained and competent employees.
- Adequate and competent supervision.
- Enforcement of safety policy and rules.
- Additional protection for vulnerable employees.
- Formalized issue and proper utilization of uniform.
- Continued emphasis on adherence to the agreed safe method to work.
- Regular annual reviews of all systems of work to ensure:
 - Compliance with statutory regulations
 - Systems are still workable in practice.
 - Plant modifications are accounted for management of change.

- Substituted materials are incorporated in the system.
- Advances in technology are exploited.
- Proper precaution in light if any accidents are taken.
- Continued involvement in and awareness of the importance if written safe system of work and standard operating procedures.
- Regular feed back of the concerned.
- Maintenance-Concerned with the reliability of machines or equipments.
- Permits to work- Formal safe system of work.
 - Full explanation of hazards involved.
 - The work to be carried out is properly detailed and understood by both sides.
 - The area in which the work to be carried out is properly detailed and understood by both sides.
 - The area un which the work to be carried out is clearly identified and made safe, or the hazards are highlighted.
 - The workman must sign the permit to say that carried out, and the hazards and potential risks to be faced.
 - When the work is finished, the workman must sign off the permit to say that they have completed the specified work and left the output in a stable state.
- Training- Training helps people acquire the skills, attitudes and knowledge to make them competent in the health and safety aspects of their work.
 - Specific safety training- on the job training for tasks of specific nature.
 - Planned training, such as general safety training, induction training, management training, skill development training, refresher courses.

HIERARCHY O F ACCIDENT CONTROL MEASURES:-

- **Eliminate risk by substituting the dangerous for less dangerous.**
 - Using less hazardous substances.
 - Better machines and mechanization thereby
 - Reducing human intervention
 - Avoiding hazardous operations.
 - Suitable policy decisions.
- **Combating risks at source by engineering controls and giving collective protective measures priority.**
 - Separate the operator from the risk of exposure to hazardous substances by enclosing the process.

- Protect the dangerous parts of a machine by guarding.
 - Design process machinery and work activities to minimize the release , or to suppress or contain airborne hazards.
 - Design machinery which in remotely operated.
- **Minimize risk by:**
 - Designing suitable systems of working.

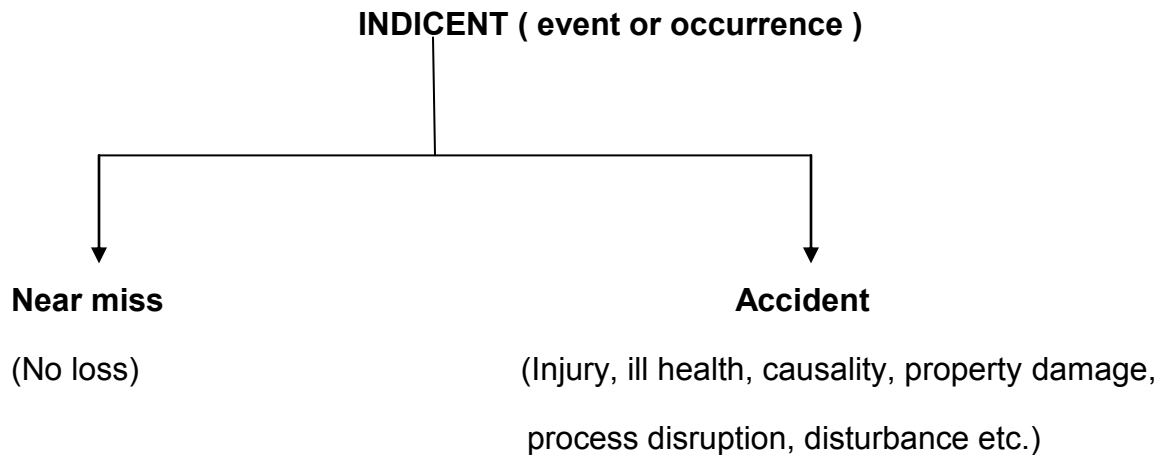
Hierarchy reflects an increased reliability in risk elimination and control by use of physical engineering controls and safeguards compared to reliance on employees.

TYPES OF HAZARDS:-

- Physical
 - *Chemical*
 - *Biological*
 - *Ergonomic*
- ❖ Physical:- Noise, Vibration, Radiation, Temperature, Pr, Vel, Ht, Electricity, Physical characteristics.
 - ❖ Chemical: Explosives, Flammable, Liquids, Corrosives, Oxidizing materials, Toxic, Carcinogenic, Gases and air particulate.
 - ❖ Biological:- Bio water, Drugs, Virus, Bacteria, Parasites, Insects, Poisonous or diseased plants and animals.
 - ❖ Ergonomic:-Physical, Environmental and Psycho-social
 - Physical: Poor work, task design, repetitive motion, prolonged sitting, poor layout, poor posture, improper lifting and handling.
 - Environmental: Poor lighting, glare, poor ventilation, poor temperature control, poor humidity control.
 - Psycho-social: Work rest cycles, violence, discrimination, extraneous stress, uneven work load lack of personnel space, poor interstate relationships.

HAZARD CONTROL HIERARCHY:-

- Elimination
- Substitution
- Engineering control
- Administration control
- PPE.



Unsafe acts and unsafe conditions major contributory factor for accidents

Unsafe act- 88 % , Unsafe conditions-10% , Others 2% .

Which means 98% of accidents can be prevented.

UNDERSTANDING ABOUT ACCIDENTS :

DEFINATION

Accident is unforeseen, uncontrolled and unplanned event, which interferes with work and may or may not cause injury to person or damage to property. Accidents do not just happen, they are caused.

HOW ACCIDENTS OCCURRED

1. An accident is the occurrence in sequence of events that usually produce unintended injury, death or property damage.
2. An analysis of the Industrial accidents revealed that the accidents do not just happen, but they are caused.

CAUSES OF ACCIDENTS

1. Unsafe Act

Not following applicable safety norms:

- Safety rules
- Working guidelines
- Safety Instructions
- Dock Workers (Safety, Health & Welfare) Regulations 1990

Not using:

- Personal Protective Equipments (PPE)
- Safety guards
- Safety gadgets
- Right tool for right job/ Use of worn out tools/ Misuse of tools etc.
- Good housekeeping practice

Personal attitude:

- Faulty attitude
- Accident will not happen to me, happens to other only
- Accident is an act of God, a punishment
- Failure to recognize potential dangers
- Horseplay at work place
- Disturbing the concentration of others by talking
- Operating without training, without knowing, without experience or without orders etc.

Personal factors:

- Impulsiveness
- Lack of attention
- Irresponsibility
- Defective Vision
- Lack of sleep
- Temperamental dash
- Accident proneness
- Food habits and drinks/ drug habits
- Psychophysical characteristics
- Worry and emotion
- Age, Sex, Physical fitness

2. Unsafe Conditions:

- Bad selection of man, machine, material and methods
- Faulty design of machine
- Insufficient and inadequate safety guards
- Inadequate air supply and light
- Absence of Caution boards/ Notice boards
- Improper maintenance or no periodical maintenance
- Faulty purchase/ Lowest Quotation

3. Natural Calamities:

- Heavy down pour
- Lighting
- Floods
- Landslide
- Collapsing of building
- Earth Quake
- Tornado etc.

CONSEQUENCES OF ACCIDENTS

(i) To the workers:

- Pain from injury
- Loss of incentives

(ii) Direct Losses

- Loss of Limb
- Loss of earning capacity
- Expenditure for medical treatment
- Compensation

(iii) Indirect Losses

- No peace of mind in family
- Frustration in life
- Future plans upset
- Loss to family if death or disablement occurs

(iv) Social Losses

- Children become orphans
- Loss of parent of son/ daughter
- Burden to society.

ARRANGEMENTS FOR PREVENTING ACCIDENTS :

1. HAZARDS IDENTIFICATION, ASSESSMENT AND ANALYSIS

The following methods to identify present and potential hazards and assess and analyze them timely and to initiate suitable actions :-

- (a) Accident data collection, compilation and analysis
- (b) Accident reporting and investigation
- (c) Walk through survey
- (d) Plant safety inspections
- (e) Survey

2. WORKERS PARTICIPATION IN SAFETY MANAGEMENT

It is the duty of the workers to effectively participate in safety; Health and Welfare management programme wherever necessary. To promote their participation at work co-operatively and collectively, arrangements listed below are followed:-

- (a) Port Safety Committee
- (b) Various promotional activities such as suggestion scheme, competitions, contests, celebration of national safety weeks etc

3. HEALTH

- (a) Hospital is situated very close to the dock area.
- (b) It provides emergency, first-aid and injury treatment requiring medical attention. A first aid centre is located at the Docks . A qualified first aider in each shift is made available to render services
- (c) All the Dock Workers and Port employees exposed to dangerous operations are periodically medically examined and records of such examinations are maintained.

4. FIRE PREVENTION, PROTECTION AND OTHER SAFETY DEVICES

The following shall be ensured to protect the property of the Port –

- (a) Fire curtains wherever essential shall be installed;
- (b) Fire hydrant system will be installed and maintained;
- (c) Water sprinkler system will be installed and maintained;
- (d) Suitable and adequate number of portable fire fighting extinguishers will be located at various critical locations;
- (e) Fire fighting system, both portable and fixed, will be examined, inspected and tested at regular intervals;
- (f) Suitable number of personnel are periodically and adequately trained to fight fire;
- (g) Life buoy will be fitted at all the location in dock area wherever it is essential.
- (h) Regular mock drills will be conducted for proper awareness and functioning of fire fighting system.
- (k) smoke detectors, gas detectors , flame detectors are installed at most of the fire vulnerable locations .

5. PERMIT TO WORK

A system of permit to work is ensured to carry out hazardous jobs in un favorable conditions. Permits such as, hot work, electrical shutdown is available which are issued by initiator to executor as per procedure and wherever necessary, after thorough check-up, counter-signed by sectional head.

6. PERSONAL PROTECTIVE EQUIPMENT

Suitable and adequate Personal Protective Equipments (PPE) are issued to workers. These equipment are regularly replaced whenever necessary. A system for ensuring the quality of such PPE will be followed.

7. EDUCATION AND TRAINING

- (a) Warning signs at various locations such as "No Smoking", "No Entry", "Machine Under Repairs, Do Not Start", etc. shall be displayed.
- (b) Safety Manual covering safe operating procedure will be prepared and made available with Departmental Head, Shift Incharge – ATM(Op) , Safety Officer.
- (c) Workers, supervisors, and management personnel will be periodically provided with adequate training in safe practices.

ACCIDENTS REPORTING AND INVESTIGATIONS

As per Regulations 91 of the Dock Workers (Safety, Health and Welfare) Regulations, 1990, it is mandatory on the part of port users (all employers) to report accidents involving their employees while carrying out duties inside the port. The accident shall be reported to the area in-charge immediately in Form-XII.

Each and every accident that occurred in the port is to be compulsorily reported to the Safety Officer in writing and the same is to be investigated and reported to the Chairman and Dy.chairman . Therefore, it is essential on part of every Department and port users to co-operate and provide all evidences to the Investigation Officer during the course of investigation.

GENERAL SAFETY TIPS

1. Do not enter the docks without a valid Dock Entry Permit or RFID Card.
2. Do not smoke in the port premises.
3. Obey Traffic signals. Do not drive your personal vehicles like bike, car etc. on the wharves.
4. Maintain driving speed limit on the dock roads at 20 Kmph and on wharf at 8Kmph.
5. All the vehicles be parked in the earmarked parking areas only.
6. Resting/ sleeping/ climbing on stacked cargo/ pipelines is prohibited.
7. Do not sleep below vehicles or on the heap/pile of cargo.
8. On getting injured, ensure to have "FIRST AID FIRST" and inform your supervisor.
9. Keep gangways and aisles free from obstructions.
10. Walk carefully on wet or oily floor.
11. Do not take short cuts, when a safe road or safe method is available.
12. If you observe any unsafe working conditions or unsafe methods practiced by a colleague, report immediately to your supervisor.
13. Practice good teamwork and have mutual cooperation among the workers.
14. Do not distract the attention of a worker while he is working.
15. Comply with the warning signs displayed in the port.
16. Do not use make-shift arrangements, like using a barrel as a Ladder, Spanner for plies etc.
17. While climbing down the stairs, hold the railings and climb down slowly.
18. Comply with all safety practices/ rules and take active part in all safety activities. Also insist on observance of safety.
19. Sleeping inside the dock is prohibited during break or shift change over.
20. After completion of shift, no worker should continue to remain on board without valid permission from approval authority.
21. Authorized security guards be only deployed for security of cargoes and containers.

22. While opening the hatch covers, the ship's Officer/ Crew members shall ensure that nobody is in the hatch cover.
23. Nobody should be allowed to rest or sit or sleep on the hatch cover , irrespective of whether loading/ unloading operations are going on or not
24. The contractors engaged by the agents for lashing, supply of dunnage etc. should be directed to have strict control and supervision on their workers.
25. Driver of the vehicle/ equipment should ensure that no one is sleeping below/ near vehicle/ equipment before starting the vehicle.
26. Two-wheeler riders should invariably use helmets while riding their vehicles inside the docks and CFS areas.
27. Do not leave your trucks/ trailers parked in the Docks without drivers/ cleaners.
28. Encourage the workers to use the nearby rest shelters.

MEASURES TAKEN TO PROTECT THE WORKERS AGAINST ACCIDENTS AT NMPT :

1. Complying with applicable statutory and regulatory requirements .
2. Conforming to National and International Safety standards in all operations .
3. Equipping with state of the art equipment and technology and efficient , professional way of cargo handling operations.
4. Conducting all operations safely to prevent injuries to persons , damage to property and environment , ensuring security and safety of life , equipment and cargo .
5. Upgrading the competence , awareness , skills and motivation of port personnel .
6. Maintaining robust security practices and controls to preserve confidentiality , integrity and availability of information through risk assessments and controls .
7. The risk assessment techniques such as HAZOP Study and CONSEQUENCE MODELLING study is carried out .

8. The Disaster management Plan is upgraded in lieu with the Management Of Change.
9. Port Safety Committee meeting is conducted in a quarterly basis to discuss Safety , Health and Welfare issues . The decisions taken are implemented .
- 10.Regular Onsite Mock drills are conducted for various scenarios at various locations .
- 11.It is ensured that the dock workers engaged are provided with necessary Personal protective equipments .
- 12.It is ensured the dock workers undergo annual medical examination at the Port Trust Hospital .
- 13.The port is having a AFIH qualified doctor to conduct the medical examination of dock workers as per the Dock Safety Health and Welfare Regulations .
- 14.Regular safety awareness programmes are being conducted onsite .
- 15.All the Dock workers are imparted with the annual training programmes on Safety in Material Handling and General Safety .
- 16.Periodical inspection and maintenance of lifting appliances of loose gears are carried out by the competent persons authorized by DGFASLI.
17. As per the RBRIS – (Risk based Random Inspection ssystem) The Master of ship / steamer agents / stevedores should compulsorily submit the test certificates of Lifting appliances and Loose gears to DGFASLI 48 hrs prior to berthing of vessels .
- 18.Standard Operating procedures are prepared and given to the Stevedores , C&F Agents and Workers and it is ensured that the workers are familiar with the SOP and follow the same.
- 19.Safety calendars and diaries are being distributed to offices of the port to improve safety awareness .
- 20.Display of Cautionary / Warning posters , sign boards etc , in operational areas.
- 21.Statutory safety audits of the port being conducted as per schedule.
