

TAMILNADU SAFETY PROFESSIONALS WELFARE ASSOCIATION



PRESIDENT'S DESK



Dear TNSPWA members,

Hope all are healthy and safe. The quarterly E-Magazine of our great association received lot of accolades from our members along with meaningful feedback.

This quarter e-magazine is paramount importance with respect to the topic

- a) How to prevent crane accidents written by Shri. S. Arunkannan - one of the best competent person in the industry and our Executive Committee member of our Association**
- b) Vitamins for our good health written by Shri.Murali, Vice President of our Association**

We all know the important material handling equipment in any industry (both Construction and Manufacturing) is the Crane (Mobile, EOT, Gantry, Tower and so on). Without cranes nothing moves in any industry. There lies the importance of cranes and the Plant & Machinery maintenance and upkeep plays an important role for safe functioning and to prevent failure, thereby preventing any accident. The failure can create devastating effect, resulting in injuries to workers, employees, many times lead to multiple fatality. This article brings out excellent details on operation and maintenance of crane for safer working. The second topic 'VITAMINS' is of paramount important, post covid recovery in many affected persons.

The new section is bringing out the major industrial accidents happened recently across India and will be an education to all safety professionals and will be useful in our day-to-day work on prevention of accidents.

As Covid-19 is still there, I request all members to take care of self, their family, and workers by taking all eligible covid vaccination and stay Healthy and Safe always.

**With Best Wishes,
R. Mohan/President**

SECRETARY MESSAGE



Greetings:

How to Prevent Crane Accidents: In this current scenario, more no of incidents are reported due to unsafe usage of Material Handling Equipment, lack of knowledge, skill and competency of employees at workplace.

This book clearly explained to follow standard operating procedure of usage of Crane, Inspection technique for maintenance and various proactive safety measures to be followed to eliminate incident at workplace.

Vitamin A, D, E Etc., clearly given types of food sources, Daily requirement to be taken per /day and Symptom and sign of deficiency – Helpful for family members. But it is recommended to consult for your individual needs with a medical professional.

In this regard, our Executive committee member Mr. Arun kannan and Our Vice President Mr.TR.Murali releases this Quarterly E magazine which include the two key topics - “How to prevent Crane Accidents” and “Vitamins & Health Awareness”. The first topic will be helpful to prevent the incident at workplace of construction and various heavy engineering industries. Vitamins & health awareness will be helpful to ensure good health condition in our day-to-day life.

Everyone shall read this E magazine and spread the awareness of Safety & Health among workers, friends, relatives, and family members so that we can save ourselves, family & Society.

Thanks & regards,

K. Palani

Secretary / TNSPWA

Shri. Arun Kannan
Competent Person
Executive Committee Member
TNSPWA



How To Prevent Crane Accidents

Crane accidents are a leading cause for construction injuries and fatalities. Due to the massive size of the machines and the possibility of something going wrong due to machine or human error, prevention of construction crane accidents is an essential part of construction safety training.



While on occasion machines will malfunction and cause an accident. There are ways employers and employees can reduce the risk of a crane accident while on a construction site. Here are the most common ways to reduce injuries and deaths resulting from construction accidents involving cranes.

Safety training

Employers and employees should be devoted to a regular schedule of safety training seminars related to construction work and safe crane operation, especially when new-hires are on the job. Emergency drills also should be included in the safety trainings so workers are prepared and know what to do should an actual emergency occur.



Consistent Maintenance & Inspections



In order for any piece of heavy equipment to function properly, it must be maintained, repaired, and inspected by qualified technicians on consistent basis. Missing maintenance tasks to save time or money is one reason cranes becoming unstable or perform poorly, leading to worker accidents on construction sites.

Site Assessment

Prior to working with a crane on a construction site, the site should be carefully assessed to determine safe placement and operation. Workers should be fully aware as to where electric lines are located and other such hazards that would affect the proper operation of the crane.

Lift plan

Each lift is different from another, and it is important to review all hazards, the load weight capacities, integrity of the equipment, the possible effect of wind, and other factors. The operator, riggers, and other workers involved with the lift must be part of that planning process



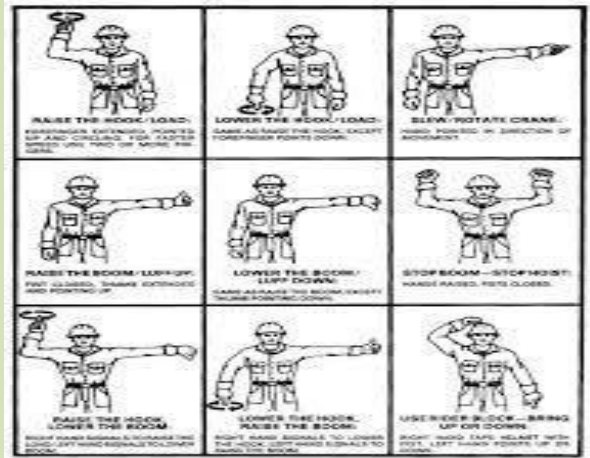
Communicate & Follow the Plan

The following are to be communicated and often accidents occur when the agreed upon plan is not followed or enforced:

- Hazards & Controls for the site-specific task
- Safe Work Practices & Procedures to be followed
- The Plan to successfully complete the task
- Assign clear roles & responsibilities to the ground crew
- Agree to the plan and sign off on the plan

Signal Personnel

Signal personnel should be on hand and alert to protect other workers on the ground as well as the crane operator. Signal personnel should be present to warn both workers and operators as to potential hazards on a busy construction site.



Check the Ground Conditions

The most powerful, carefully rigged crane is only as strong and stable as the surface upon which it stands. You need to know the classification for the soil or other material under the crane and adjust your setup and load limits accordingly. While many cranes are equipped with outriggers, extending them does not necessarily mean that you've provided a stable surface. It is important to know the load weight and how that is affected by the conditions of your jobsite. The crane's load chart can help you determine whether your lift will be safe.

Know Your Radius



The counterweight and boom travel within a specific arc is called the swing radius. It is important to ensure that the area within that radius is barricaded off. It is critically important to establish a control zone for those authorized to work in the immediate

area. Constantly check the area throughout the day to ensure that there are no objects the boom might strike. If obstacles are introduced, be sure that the operator and other workers are aware of the obstacle and the plan for avoiding it.

Communication:



Whether hand signals or some other method that needs to be clearly communicated between the operator and the other workers. That is especially critical when a crane is making a lift in which the operator cannot see the load. Do not assume that everyone knows how instructions will be communicated. Make sure everyone understands the system and follows it.

Stay Focused:

Everyone associated with a crane needs to stay alert and focused on the job at hand – especially on critical or difficult lifts. The lack of focus is a common cause of work – related accidents, incidents, and serious near-miss events.



Personal Protective Equipment:

Personal Protective Equipment is very important aspect to look during crane operation especially in construction site observing list of PPEs is a must and should be strictly adhered. This is to avoid hazards caused by physical, mechanical, and other aspects in site to sound safety environment.

To prevent accidents related to working on crane, operators and personnel should use personal protective equipment such as hard hats, safety shoes, reflective vests, safety glasses, work gloves and necessary rigging equipment to prevent injury or death from falls.



Shri. Murali T.R.
Vice-President,
TNSPWA



VITAMINS

Mr. Hopkins in a series of experiments carried out during the period 1907 to 1912 found that animals maintained on purified Carbohydrate, Protein, Fat and Minerals failed to grow, become ill in a short time and died. But when purified diet was supplemented by small quantities of milk, the animals-maintained growth. These led to the hypothesis that these accessory factors are also necessary for the health and growth of the animals and then are named as vitamins.

The vitamins are classified into two groups according to the nature of their solubility. They are

1. Fat soluble vitamins e.g., Vitamin A, D, E, K	2. Water soluble vitamins e.g., Vitamin B complex and C
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Food sources	Daily requirement	Symptom and sign of deficiency
<u>Vitamin A</u> Milk, Butter and fish liver oil, egg yolk, carrots, sweet potatoes, spinach, apricots	5000 IU 8000 IU (In pregnancy)	<ul style="list-style-type: none"> - BITOT'S spot in the eye (Collection of dry fleas, masses at the sides of the cornea) - Night blindness - Imperfect enamel formation on teeth - Follicular hyper keratosis on skin (Increase in size of skin horny layer)
<u>Vitamin D</u> Milk, Butter, fish liver oil, egg yolk	5000 IU/day	<ul style="list-style-type: none"> - Tetany and Rickets in infant and children - Osteomalacia in adults (Bone softening)
<u>Vitamin E</u> Whole rice, Wheat, Germoil, Maize, Molasses, Peas, Meat	12 IU/day	<ul style="list-style-type: none"> - Haemolytic Anaemia in premature infants - In chronic deficiencies ataxia (Defective muscular control result in irregular and jerky movement) and visual scotomas (Blind spot in the field of vision) will occur.

Food sources	Daily requirement	Symptom and sign of deficiency
<u>Vitamin K</u> Green vegetable, Cabbage, spinach, tomatoes, egg yolk. It is also synthesized in intestines	40 mg/day	- Haemorrhagic diathesis (Coagulation disorder)
<u>Vitamin B1(Thiamine)</u> Whole grain cereals , yeast,bean, liver, meat	25 – 100 mg/day	- Anorexia (Loss of appetite) - Dry and wet beriberi - Wernicks encephalopathy (Brain disease) - Psychosis
<u>Vitamin B2(Riboflavin)</u> Germinating seeds, milk, egg	2 mg/day	- Angular stomatitis (Fissuring in the corner of the mouth) - Cheilosis (Softening in the corner of the mouth) - Purple or Magenta tongue - Scrotal dermatitis - Corneal vascularisation (Formation of blood vessels in the cornea)
<u>Vitamin B3 (Niacin)</u> Rice, Liver, Brain, Egg, Meat, Yeast	15 to 20 mg/day	- Erythema (Redness of skin) - Pigmentation and hyperkeratosis of skin - Diarrhea - Dementia (Loss of memory) - Paraplegia
<u>Vitamin B6 (Pyridoxine)</u> Yeast, Cereal, Spinach, Milk, Egg, Liver, Meat	2 mg/day	- Cheilosis - Glossitis (Inflammation of tongue) - Peripheral neuritis - Anaemia - Convulsion
<u>Vitamin B12 (Cyanocobalamine)</u> Liver, Synthesized in Colon	1 microgram	- Anaemia - Glossitis - Neuropathy
<u>Folic acid</u> Yeast, Fresh green, Vegetables, Cereals, Liver	0.05 to 0.2 mg/day	- Glossitis - Anaemia
<u>Vitamin C(Ascorbic acid)</u> Green vegetable, Citrus fruit, Straw berry, Potato, Guava	50 mg/day	- Scurvy - Delayed wound healing

Note: Though the above inputs are taken from medical professionals, it is recommended to consult for your individual needs with a medical professional.

Reference: Hopkins F. G.: 1912; Feeding experiments illustrating the importance of accessory factors in normal dietaries. Journal of Physiology 44:425-460

Why this article now? This article has been issued in the interest of those who are facing one set of complication post Covid effects i.e., Vitamin B12 and Vitamin D deficiency. They are yet to be published as a fact in the post Covid complications as there are many different effects being seen among Covid infected people. With Covid still around expect our members adhere to Covid Appropriate Behaviours (CAB) and vaccination as recommended by MoHFW Govt of India and the Govt of Tamilnadu.

Industrial accidents during the year 2022

January 1, 2022

4 persons died, 2 injured in fire accident at fireworks factory in Sivakasi, Tamilnadu.

A fire broke at a fireworks manufacturing unit in the Virudhunagar district of Tamil Nadu. Four people dies and two others were injured in the incident.

Four people were killed, and eight others injured in a blaze that broke out at a fireworks manufacturing unit in Sivakasi in Virudhunagar district of Tamil Nadu on Saturday. Those injured have been rushed to a local hospital for treatment.

The incident at the fireworks manufacturing unit in Sivakasi's Pudupatti village occurred soon after workers reported for work on Saturday. Eyewitnesses have told the police that the explosion occurred as soon as the door of a chemical storage facility at the unit was opened.

Even part of the building housing the fireworks manufacturing unit collapsed following the explosion. Three workers died on the spot and a fourth succumbed at a local hospital.

While confirming the incident, the Virudhunagar district collector said the unit in Pudupatti was a licensed unit. An enquiry has been ordered to ascertain the cause behind the explosion. A police case has also been registered in this regard.

Sivakasi and neighbouring villages in Tamil Nadu's Virudhnagar district are home to many firework manufacturing units.

The district has seen multiple fire-related incidents over the years, including the blaze that claimed 16 lives at Achankulam village in 2020.



January 6, 2022

Gujarat Gas Leak: 6 Workers of the mill have died of Suffocation.

A major accident has happened in Surat, Gujarat on Thursday. Here 6 employees of Vishwa Prem Dyeing and Printing Mill have died due to suffocation. In fact, 6 workers of the mill have died of suffocation due to leakage of gas from the tanker near Vishwa Prem Dyeing and Printing Mill located in Sachin area here. While more than 25 people were admitted in critical condition.

It is reported that an unknown truck driver was pouring poisonous chemical in the drain when suddenly the gas leaked.



As Part of our Association Activities, A Webinar was arranged on 24-04-2022

“ROBOTICS AND AUTOMATION- A PERSPECTIVE FROM SAFETY PROFESSIONAL” BY SHRI.PRABHAKAR. S

Total Participants: **104**

On 24th April 2022, Tamilnadu Safety Professional Welfare Association (TN SPWA) organized a webinar on “Robotics and automation - A perspective from Safety Professionals”. Mr. Palani-Secretary TNSPWA inaugurated the session along with speaker introduction given by Mr. Balaji - Executive committee member - TNSPWA. The webinar was hosted from 11.00 a.m. to 12.30 p.m. by Mr. Murali TR - Vice President (TN SPWA).

Mr. Prabakar S - Corporate Manager OHS for India, Australia, South America, and South Africa region of Ford Motor company was the resource person of the webinar. More than 100 people (from various types of industries including the students pursuing safety courses) joined the session.

Key content of this webinar included “The evolution of robots in industry”, “Types of robots”, “Robot’s space rules for safe operation”, “Collaborative robots safety requirements”, “Safety precautions needed while training the robots”, “7 potentials hazards within robotic work cells (as per OSHA requirements)”, “Risk management”, “Management of Change (MOC) Process” and other significant focus zones to be considered by safety professionals on robotics safety.

TAMILNADU SAFETY PROFESSIONALS WELFARE ASSOCIATION - TN SPWA

WEBINAR

Mr. Prabakar S
B.E. (Mechanical) AC CET, Karaikudi,
M.E. (Industrial Safety Engineering) NIT, Trichy, and
pursuing a Ph.D. in Annamalai University.
Currently he is the Corporate Manager OHS for the India, Australia, South
Africa & South America region of Ford Motor Company

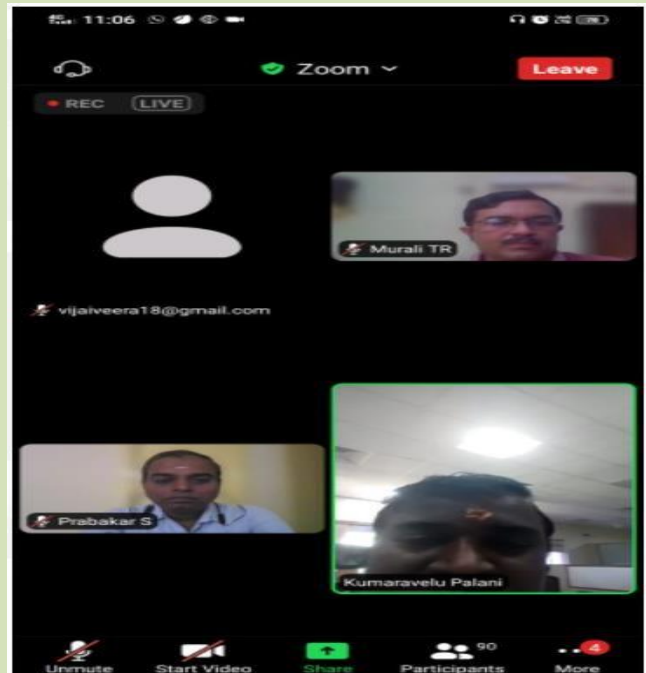
**ROBOTICS AND AUTOMATION
- A PERSPECTIVE
FROM SAFETY PROFESSIONALS**

**DATE : 24TH APR 2022 (SUN)
TIME : 11:00 AM TO 12:30 PM**

Please click on the link to register
<https://forms.gle/5CbWzFjIQPM317659>

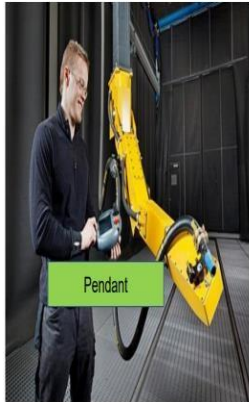
Fees: Free for Members
Rs.500 for non-members

For any queries
Murali TR 99520 99044
Balaji R 99401 31327



It was a great learning for people who joined the session, and it was delivered for free of cost. Finally, the session was ended with the vote of thanks given by Mr. J. Veeraraghavan - Vice president (TN SPWA).

ROBOT TEACHING / PROGRAMING



A control box for programming the motions of a robot. Also called a "teach box," the robot is set to "learning" or "teach" mode, and the pendant is used to control the robot step by step. Teach pendants are typically handheld devices and may be wired or wireless.



Enabling device

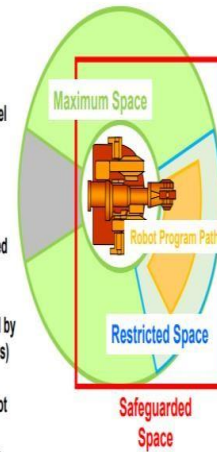
□ Teaching robot in **Safeguarded Space** more than one – shall be applied enabling device for each person

SLIDE 23

ROBOT SPACE RULES

Robot Programming and Safe Guarding Strategies

- **Maximum Space** – maximum distance the robot can travel
- **Safeguarded Space** – guarding that is surrounding the perimeter of the automation zone
- **Restricted Space** – the travel of the robot that is restricted by either hard or soft limit stops
 - NOTE: Almost all new robotic applications are limited by software related stops (Programmable Safety Systems)
- **Robot Program Path** – the programmed travel of the robot
- **Operator Shared Space** - the monitored robot path where the operator can interact



SLIDE 19

Question of this issue:

What is CMR?

Members are requested to post the response to spwassociation@gmail.com



Total Association members as on April 2022	260
Professional members	200
Corporate / Vendor Members	14
Student members	46

பிணியின்மை செல்வம் விளைவின்பம் ஏமம்
அணியென்ப நாட்டிற்கிவ்வைந்து.

பொருள் -; மக்களுக்கு நோயற்ற வாழ்வு, விளைச்சல் மிகுதி,
பொருளாதார வளம், இன்ப நிலை, உரிய பாதுகாப்பு ஆகிய
ஐந்தும் ஒரு நாட்டுக்கு அழகு எனக் கூறப்படுபவைகளாகும்.

SLOGAN OF THIS ISSUE

**WORK SAFELY ALL
THE WHILE**

**GO HOME WITH
A SMILE**

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