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Webinar Conducted During April-June 2020

WEBINAR ON BEHAVIOR BASED SAFETY (BBS) CUM COVID-19 PREVENTION On 23 April 2020, Time 4:00 PM (India)



Speaker:

revent Accident,

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Mr. Mohd Tausif: B.Tech, PDIS, Co-ordinator, Institution of Safety Engineers (India) Member ZJEW Trust Mr. Shahnawaz: Member & Expert EHS- ISEI Member ZJEWT, CEO-IJISE



"BBS help to reduce risk related to **COVID-19**"

"Protect yourself and your family from Novel **Corona Virus infection to take adequate** precautionary measure"

WEBINAR ON SAFETY MANAGEMENT IN **CONSTRUCTION INDUSTRIES** On 16 May 2020, Time 10:00 AM (IST)

Accident



Speaker:

Mr. Mohd Tausif: B.Tech, PDIS, Co-ordinator, Institution of Safety Engineers (India) Member ZJEW Trust Mr. Shahnawaz: Member & Expert EHS- ISEI Member ZJEWT, CEO-IJISE



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This Issue Journal Include:

- IJISEI-V3-I2-1 ¹Effective Method of Behaviour Based Risk Evaluation and control Measure in any Organization
- IJISEI-V3-I2-2 ²Heat stress Prevention at Workplace
- IJISEI-V3-I2-3 ³Fall Hazard Prevention at work place: A study
- ⁴Short Notes on Safety Management System (SMS)
- ⁵Short Notes on Environmental Impact Assessment (EIA)



Volume 3, Issue 2





 Effective
 Method of Behaviour Based Risk Evaluation and control.

 Image: Sessol activity
 measure in any Organization

 Plan Prevent Protect
 Shahnawaz Rampuri

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Abstract: Behaviour based safety is systematic and effective approach that create self-desire among employees to adopt best safety practices and procedures to control work place risk. In behaviour based safety employee use safe behaviour during performing any work, means employee change their behaviour from risk behaviour to safe behaviour. In this approach, employees prevent to human error during performing their job in industries to bring safety in their behaviour. This study is carried out to identify best approach and techniques to evaluate behaviour of employees and how can change the behaviour of employees from negative (Risk) behaviour to Positive (safe) behaviour. In this paper, we will discuss connection of employee attitude with their behaviour. Therefore, this paper is very helpful to know the best method to evaluate negative behaviour, risk related to such behaviour and use effective method to change unsafe behaviour into safe behaviour of employees.

Key word: Behaviour Based Safety (BBS), Method to develop positive behaviour based safety among employees, ISEI Method, BEAPI Method, Impact of behaviour based safety to organization, Behaviour based risk evaluation & Risk management method.

Objective

- Creating awareness among organization employees.
- Developing Positive Behaviour among people to prevent human error.
- Changing Risk Behaviour to Safe Behaviour of employees.
- Control to organizational Harm to Prevent risk behaviour.
- Fulfilling statutory compliance and achieving world class industries reputation in market.

1. Introduction:

Behaviour Based Safety (BBS) is an approach and effective method, used to change risk behaviour of employee to safe behaviour. Risk behaviour always leads to cause of organizational harm in term of injury, death, property damage, environmental damage or combination of these. BBS plays vital role to create safe work place to eliminate such

behavioural risk of human that may lead to cause of unsafe acts and unsafe conditions. Now

majority of industries such as construction industries, process industries, Tour, Travels and other sector industries are focusing to behaviour based safety (BBS) because they know future impacts to organisation of negative behaviour. Negative Behaviour creates human error and its
 results accident. Accident causes of huge losses to organizational harm. Main causes of sessol estimates
 Plan Prevent Protect in industries are due to negative behaviour of employees and there may be several ent Protect factors responsible to develop negative behaviour among employees and create unsafe work environment (Fig. 5).

Behaviour based safety is totally depend on attitude of employees or people. In Simple ways consequence of Attitude is known as behaviour and Consequence of positive attitude is known as Positive behaviour of employees. Positive behaviour of employee always helps to prevent accident and it results to organization success (Fig. 1).



Fig. 1, Probability of organization success on based employees Behaviour

2. Behaviour Based Safety V/s Attitude

2.1 Behaviour Based Safety

Consequence of Attitude is known as human Behaviour and it may be positive or negative behaviour. Behaviour based safety of employees can be defined from many ways and few ways to define behaviour-based safety are:

- Behaviour Based Safety (BBS) is result of employees or people Positive attitude.
- Method or technique of injury or disease or organizational harm prevention.
- Focus on safe behaviour and acting accordingly.

Prevent to Risk behaviour from organisation.

Chain between management representative and employees and work together to adopt safety rules and procedures to minimize or control risk related to negative behaviour.



Fig. 2, Behaviour Based Safety of employees

2.2 Attitude

Attitude of employees is major parameter of behaviour. Behaviour is results of employee attitude. Attitude can be defined as following ways:

- The ways you FEEL
- They ways you ACT
- The ways to COMMUNICATE to People
- The ways you THINK

In simple word, Attitude can be defined as the result that shows to others of your feeling, thinking, talking and acting. To understand Attitude FACT is best term to define, F means feel, A means Act, C means communicate and T means think or talk.



Fig. 3, Attitude can be change through Behaviour

Attitude is directly relates to behaviour of employee. If employees attitude will be positive then behaviour will be positive and if their Attitude will be negative, then behaviour will be negative. Attitude can be categorize into Safe Attitude that is known as positive attitude, unsafe attitude that is known as negative attitude and neutral attitude that means employee believe in safe behaviour as well as unsafe behaviour (Table 1).

Negative Behaviour	Neutral Behaviour	Positive Behaviour
Employees not follow Safety rules	Some time employee believes in safety rules, procedures and follow it or sometimes not.	Employees follow Safety rales & and the second seco
and the second second	Table 1, Employees behaviour	Play Petrant Brotest



Fig. 4 Employees attitude versus behaviour graph

Employee behaviour is directly proportional to Attitude. If employees attitude are positive then it will develop positive behaviour among employees and result to prevent such human error or situation that lead to cause of accident or any organizational harm.











5. Understanding Behaviour

To understanding behaviour of employees, it is important to understand their attitude. Behaviour of a mployees depends on their Attitude. If attitude will be positive, it means employees will follow safety rules and procedure to avoid any type of human error and creating safe healthy work environment. If Employees attitude will be negative, means they shall not follow safety rules, second studies attitude will be negative, means they shall not follow safety rules, second studies attitude will be negative.

procedures and belief in un-necessary risk taking and it results injury, Accident or any organizational harm.

Accider

Plan Prevent Protect To identify and evaluate risk related to attitude of employees is very tough because without seeingotect employee acts, No any person can identify the nature of behaviour and without identifying behaviour of employee, risk can't be evaluated. Therefore behaviour can be identified to see the acts of employee and attitude can be change by change of behaviour. There are many factors responsible for people behaviour (**Fig.7**).



Fig. 7, Understanding employees Behaviour



Ian September 2019 in India and found that presence of risk behaviour employees including workmen in construction industries is more than manufacturing and Hotel/Hospitality industries (Fig.8). In this Study, human behaviour is categorised in three parts, Negative, Neutral and positive behaviour of people. Neutral behaviour means employees have Positive attitude as well as negative attitude respect to safety (Table 1). As per study, small or medium scale construction industries, risk behaviour employees are more than large construction industries. In this study, main factors are identified, industries wise that are responsible to develop risk (Negative) behaviour within organisation.

In Construction Industries, Approx. 60 percent employees were positive behaviour, 13 percent employees were negative behaviour & 27 percent employees were neutral behaviour. In manufacturing industries, 79 percent employees were Positive Behaviour employees, 5 Percent employees were negative behaviour & 16 Percent employees were neutral behaviour. In Hotel & Hospital sector industries, 69 percentage employees were Positive behaviour, 11 Percent employees were negative behaviour & 20 Percent employees were neutral behaviour (Fig. 8). Factors also identified that was responsible to develop risk behaviour in Construction Industries, Manufacturing Industries and Hotel/ Hospitality Industries (Fig.9).



Fig. 8, Behaviour of Employees including workers industries wise, Sources ISEI







Fig. 9, Responsible Factor to develop Risk Behaviour in industries, Sources ISEI

7. Behaviour based risk evaluation method and Risk Management Method

Behaviour related risk can be evaluated to identify attitude of employee. Attitude is outcome of acts of employee that is known as behaviour. Firstly, we identify to employee attitude to see their acts and then identify to human error, whenever human error observed then we see the likelihood (Probability) of hazardous event occurring and if there is any probability of hazardous event occurring then what will be their consequence and on based on this, risk is to be evaluated. If there is no probability of event occurring, means employees have positive attitude and positive behaviour. If attitude creates such condition that results accident or any organizational harm, means employees have negative attitude. In case of negative behaviour, Need to evaluate behavioural risk and take needful action to minimize or reduce such risk upto tolerable level.

To control workplace behavioural risk, Need to eliminate/ reduce Likelihood of hazardous event occurring or eliminate/reduce to severity of harm. Behavioural related risk can be also control through to eliminate/reduce likelihood of event and severity of harm both together to take adequate control measure.

Behavioural Risk: Probability of Hazardous event occurring due to negative (Risk) behaviour X Severity of Harm due to hazardous event



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Fig. 10, Sources, IJISEI Vol. 2, Issue 2, Page 4, Mr. Aloke Pathak, Need of BBS in Industries

7.1 Identification of Employees Behaviour respect to Safety though ISEI Method.

ISEI is very effective method used to identify behaviour of employees. In this method four term I, S, E & I used, so it is called ISEI behaviour based safety evaluation method. This method is as summarized below.



Inspection or investigation or information collection (to identify negative Behaviour of people)

ISEI method is defined as identification of Safety related Error of employee (human) through inspection/ Investigation or information collection (employee background such as their knowledge, qualification, experience, health condition etc.) method from different sources to find cause of negative behaviour. This method is develop by Institution of Safety Engineers (India)

7.2 BEAPI method

BEAPI is effective method of **behaviour based risk evaluation** and ensuring effective control measure to control behavioural related risk. Institution of Safety Engineers (India) identified to this method. BEAPI is defined as behaviour evaluation of employees, action plan must be prepare and

ensure it's strictly implementation. In this method, we identify different elements related to behaviour of employees and based on this each element is categories in sub-elements and check to Plan Prevent Protect of each sub-elements. BEAPI is summarised as

BE: Behaviour Evaluation

Select the **element** as per nature of organization and identify **sub-element** of each element and check their compliance status. Few Elements related to behaviour of people are:

- □ Work method & position (Behavioural)
- D PPE uses (Behavioural)
- □ Safety Rules, Regulation Compliance (Behavioural)
- □ Tools & equipments (Behavioural)
- □ Housekeeping Compliance (Behavioural)
- □ Participation in Safety Program such as Training, meeting etc. (Behavioural)
- □ Hygiene & Welfare Amenity and their Proper utilization (Behavioural)

Categories to element of BBS into sub element and check their compliance and take needful action whenever require:

Not Applicable	Complied	Under Progress	Not-Complied
11	1		

AP: Action Plan Preparation

Prepare Action plan, as on observed negative behaviour of employees. Plan should be realistic and effective. To prepare plan discuss with management about plan for effective implementation. In Action plan many parameter such as training, health monitoring, supervision, compliance of welfare amenities, Safety laws and procedure like is considered.

I: Implement to action plan

Implement to action plan effectively, check and review compliance status as per action plan or recommendation as per observation time to time.

In this method basically Three parts (phase), First phase is Behavioural based risk evaluation, second Phase is prepare action Plan and Third phase is to implement to action plan. Time to time it should be review and corrective/preventive measure should be taken to control behavioural related risk.

In Short Form BEAPI method are written as

B: Behaviour- Identify to Employees behaviour (If behaviour will be negative then there will be



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E: Evaluation - Evaluate risk associated with Negative behaviour



Time to time need to check compliance status and take needful action for improvement in organization Safety system to develop positive behaviour among employees.

7.3 ABC Model

ABC model is best tool to change human behaviour. Most of today's behavioural safety efforts are based on this theory that says all behaviours are a result of antecedents and consequences (Fig. 10).





7.4 Behaviour based risk evaluation & Management Method

Risk is calculated to see the likelihood of hazardous event and consequence (Severity of harm) of hazardous event occurring due to negative behaviour of employee. Behavioural based Risk is exposure of potential source of harm and their impacts (severity of harm) due to negative behaviour. Behavioural related risk can be control to take adequate safety control measure (Fig. 11)





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Fig. 11, Behaviour based risk evaluation & Management Method

8. Conclusion

Behaviour based safety (BBS) is a positive approach that create self-desire among employees to perform their job safely. Employees perform their job safely to follow safety procedures, rules & regulation and they belief in safety with intention to complete their job without any harm. Behaviour based safety is associated with attitude of employees. Negative attitudes of employees always creates obstacle in implementing effective Safety management system in industries and attitude of employees can be change to change the behaviour of employees. Several methods such as ISEI, BEAPI are very helpful to identify behaviour based safety related risk and taking adequate control measure to minimize employee behavioural risk upto tolerable level. There may be several cause of negative attitude of employees such as ineffective enforcement of safety rules. Poor skill, health problem, heavy workload, poor or no provision of motivate to workforce, poor reporting culture, poor supervision etc. Management should identify applicable element and sub-element of rece behaviour based safety and based on this need to ensure compliance effectively. Health monitoring & Counselling of employees also help to identify employee behaviour. Safety activity such as training, Reward program help to develop behaviour based safety among employees. Main objective of behaviour based safety is change the behaviour of employees from risk behaviour to safe behaviour.

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- IS 18001 & IJISEI Journal





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²Heat Stress Prevention at Workplace

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Abstract

Heat Stress is major threaten for workmen at workplace during summer season. It creates health related issue to workmen due to exposure of high temperature at work place. This studies is to carried to minimize or reduce the risk related to heat stress and its result illness or death. This article is very helpful on Heat Stress Management at Workplace. It is targeting employers, managers, supervisors, workers, joint health and safety committee members, health and safety representatives, employer associations, and health and safety Professionals. The articles provide guidance on how to recognize, estimate, prevent and treat heat stress at work. It can also be used as a Safety guideline by employers for avoiding discomfort from hot environment at work. Heat stress can increase stress and fatigue which can lead to any serious health conditions for *Employees working in hot environments and also it may increase the workplace Misfortunes events.* Poor awareness among employers and employees on exposure to heat stress is common & it needs to be sorted out. These recommendations are proposed and to be used by employers and employees those who are working under severe hot climatic conditions at their workplace. The Heat Stress Awareness is to provide information and advice on preventing managing and controlling heat stress in the various workplaces. It is our hope that these guidelines of this article will be adopted by all industries and implemented at workplaces to control risk related to heat stress.

Objective

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The aim of this Article is to provide workers with the necessary awareness and suitable strategies for recognizing the symptoms of heat stress and how to safely protect themselves from heat related exposures and illnesses at workplace.



Learning Objectives: By the end of this article, readers will be able to Define heat stress, heat strain and heat-related illnesses (HRI) Identify the symptoms of heat stress Recognize the HRIs and state first aid measures for each



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Recognize factors that may affect you during outdoor works Recognize factors that may affect you during the hot period, when heat stress

might occur

1. Introduction

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What is Heat Stress? Heat stress occurs when our bodies are overheated and our internal "cooling system" cannot cool us down fast enough or properly. Our body reacts to overheating by sweating and blood flow to the surface of the skin's, which may lead to dehydration.

When hot & high humidity environmental conditions appear, the sweat has nowhere to go due to the high amount of water vapor in the atmosphere, which can aggravate to the heat stress symptoms and become very uncomfortable for the body.



Millions of workers from various industries are exposed to heat in their workplaces. Even though sickness from exposure to heat is avoidable, every year, thousands become sick from occupational heat related various exposures, and some cases are recorded as mortal. Most outdoor fatalities, 50% to 70%, occur in the first few days of working in warm or hot environments because the body needs to build a tolerance to the heat gradually over time. Lack of familiarization represents a major risk factor for fatal outcomes.

Work related risk factors (see clause 2) for heat illness include heavy physical activity, warm or hot environmental conditions, lack of familiarization, and wearing clothing that holds in body heat. Hazardous heat exposure can occur indoors or outdoors and can occur during any season if the conditions are right, not only during heat waves. The following is a list of some industries where workers have suffered heat-related illnesses.

2. Heat illness or heat related illnesses Symptoms & signs that your body is getting too hot:

You feel tired and less mentally alert makes you prone to accidents; You may sweat and start exhibiting dehydration if you don't replace the fluids and salts (called electrolytes); Heat rash may appear as a result of sweat glands swelling and getting plugged up, Direct exposure to sun can result in sunburn.



News & Journal Published by ZJEWT in association with Institution of Safety Engineers (India), Govt. Reg. No. 5240 LIISEI, Vol. No. 3, Issue 2, April-June 2020 Available online at www.ijournal.iseindia.in Prolonged heat stress may result in Heat Related Illnesses (HRI) with the following progression:

Plan Prevent Protect Heat Cramps

- Heat Gramps
 - Heat exhaustion
 - Heat syncope or fainting
 - Heat stroke





Heat Related illness (HRI)

HEAT EXHAUSTION	HEAT STROKE
Body Temperature	Body Temperature
<104°F (40°C)	>105°F (40.5°C)
Symptoms • Faint of dizzy • Excessive Sweating • Cool, Clammy Skin • Rapid, Weak Pulse • Muscles Cramps	 Symptoms Throbbing headache No Sweating Red, hot, dry skin Rapid, Strong Pulse May lose Consciousness
First Aid Method	First Aid Method
 Lay the Person down in ventilated area Drink water if full Conscious Spraying or Sponging with Cool water Fanning and monitor the person 	 Call local emergency number Lay the person down in ventilated area With feet elevated, remove tight clothing Cool the person until help arrives

Fig. 2.3, Sources, ISEI manual





Urine Color Chart

	Are you Hydrated? Urine Color Chart	
Urine color	Description	
	Hydrated	
	Dehydrated	
	You may suffer from Cramps and Heat Related Problem	
	Health Risk, need to drink more water	
	Health Risk, need to drink more water	
	Health Risk, need to drink more water	



Fig. 2.4, Sources, ISEI manual

3. Factors that may affect the staff including workmen

There are two main factors that may affect the staff, while working outdoors during the hot weather: Operational factors and Personal factors

3.1 Operational factors: It includes

- Shift Timing
- Limited shade cover
- Confined space
- Availability of ventilation
- Clothing and PPE

3.2 Personal factors: It includes

- Acclimatisation
- Medical condition
- Physical fitness (age, weight)
- Alcohol and caffeine
- Eating habits
- Sleep

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• Gender

You have higher risk of heat stress if:

You are not used to working in the heat

You have chronic illnesses like heart disease or diabetes



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You are overweight

¹⁰ Issoe You drink alcohol, too much caffeine or take drugs

- Plan Prevent Restect ate too much or too less
 - You are already **dehydrated**
 - You wear **heavy or tight clothing** that prevents your body from fighting heat.

4. First Aid for Heat Stress

- Remove person from heat.
- Call for HELP!
- Lie person down and elevate feet
- Loosen clothing
- Pour water on them or use damp cloth
- Apply cold compress if available
- Give small sips of water if conscious
- Use a fan where available to cool body temperature
- Wait for Emergency Services

5. Responsibilities of employer and workers to control heat stress related risk:

Employers: Employers should develop a written health and safety policy outlining how workers in hot environments will be protected from heat stress. As a minimum, the following points should be addressed

- Regulate work practices as necessary when workers criticize of heat stress.
- Make controlling exposures through engineering controls the primary means of control wherever possible.
- Manage heat stress trainings for all staff and check familiarization for new workers, workers who have been off the job for a while, and workers with medical conditions.
- Offer worker education and adequate trainings, including sporadic Tool box talks briefings on heat stress during hot weather or during work in hot environments and Monitor the workplace to determine when hot conditions arise.
- Determine whether workers are drinking enough water.
- Regulate a proper work / rest management for Employees.
- Arrange first-aid training for workers.

When working in manufacturing plant, for instance, a contractor may wish to adopt the plant's heat stress program if one exists.

Sesso

Plan Prevent Protect

Educating Workers about Heat Stress

Educate your workers so they understand how important it is they keep themselves hydrated and sees of the sees of

When we suggest hydrating your worker, we mean with water or electrolyte replenishment drinks, do not offer caffeinated drinks, alcoholic drinks and sweeteners, as these contribute to dehydration. By providing your workers with information and resources to keep their bodies safe and hydrated, you ensure employee satisfaction, increased productivity all of which helps in achieving business goals.



Fig. 3, Sources, ISEI manual

Workers: Following below are few example of responsibility of workers to prevent heat related Illness at work place in any industries:

depending on conditions. Drink even if you don't feel thirsty.

Workers to take regular breaks in an air-conditioned or cool sheltered area at workplace.

Accident

Always Dress accordingly as suitable clothing when you are in the sun or under the Hot

Plan Prevent Protect physically fit.

Accider

Plan Prevent Protect

- Don't use alcohol.
- Ask your doctor about prescription drugs you're taking.
- Use the buddy system. Check your colleague if he is having any signs of heat stress.
- Know what to do if you or your co-worker shows any symptoms.
- Notify your supervisor and stop work if you notice any major symptoms
- Ensure application of the requirements of this instruction by all employees and subcontractors.
- Ensure that this instruction is included in the "terms and conditions" of all contract with subcontractors.
- Ensure that all concerned employees and subcontractors are trained on the requirements of this instruction.
- Ensure proper Uniform, PPEs and equipment are available.
- Ensure work schedule is posted in work areas and are available to any employee and subcontractor
- Perform at least one fortnightly HSE Inspection in outdoor works to monitor compliance with this instruction and send the inspection report to HSEQ / Safety Manager.
- Take disciplinary actions against FMM employees or subcontractors in case the requirements of this instruction are not followed up.
- Work Shift Schedules posted in the work area. Breaks as required by the hourly heat index
- Enough of cool water available per employee per shift. 1 cup or bottle available for each employee.

Guide: Procure enough material resources to all employees working outdoors and subcontractors as per below figure (Fig. 4)





Fig. 5, Sources Google

- 6. Objectives review: By the end of this article, readers will be able to:
 - Identify what is heat stress

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- Recognise what are heat related-illnesses and deferent kinds
- Recognise factors that may affect staff during outdoor works
- Identify means of heat stress prevention
- Apply best first aid in case of any incident or accident
- Explain the different responsibility of all staff during this period

Through the years, The Institution of Safety Engineers (India) as an organization has been

promoting safe system of work through information, instruction, training and supervision,

with a collaborative effort from every Head of the department.

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As a Senior Member of this Esteemed Institution it's a privilege to share the best practices of health and safety across the globe. Health and safety is not only HSEQ (Health, Safety, and Environment) & Quality department responsibility it is everyone's responsibility.

Not just one person it is EVERYONE- whether you are a Manager, an ordinary Technician or a Cleaner you have the responsibility to ensure your safety and be fully aware of the risk involved and possible consequence that could result from what you are about to do.

Remember, nothing that we do is so urgent that we cannot take time to do it safely. What you don't know can hurt you and what you knew can help you.

Together, you and me and every one of us let us be safety committed and honoring this commitment by working safely. Your safety is your priority...together we go home safely.

Remember if conditions change and the potential for a heat related illness is identified, we must use our Stop work Authority immediately, so that corrective action can be taken.

"HEAT STRESS CAN BE DEADLY"-PROTECT YOURSELF FROM HEAT RELATED ILLNESS

WE ALL CAN WORK TOGETHER TOWARDS A MUCH CLEANER AND SAFER WAY! If it is not safe... Don't do it!

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1. Anatomy of fall: We have all heard the expression - 'it's not the fall that's hurts but the sudden stop at the end'. Think of a fall as "... a sudden, unanticipated descent in space driven by gravity". Even though this cannot sound excessive, the consequences are regularly disabling - or deadly. It takes most people about 1/3 of a second to become aware of a fall. It takes every other 1/3 of a second for the frame to react. A person body can fall up to approx. 2.13 meter in 2/3 of a second.

Falls: Falls always account for the finest quantity of fatalities inside the creation industry each year.

In 2004, As per Bureau of Labor Statistics (BLS), Total 1224 workplace facilities occurred due to fall. Similarly, the difficulty and price of taking care of accidents associated with falls is an emotional and monetary burden for workers and the complete creation enterprise.

Events surrounding these types of injuries and fatalities involve a number of factors, including unstable working surface, misuse of fall protection equipment, and human error.

The cost of take care of accidents associated with falls is a financial burden for the whole production industry.



Fig. 1, Material Falling



Fig. 2, Person Falling

2. Identifying Fall Hazards:

Examples of factors contributing to fall hazards:





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Potential of Fall from Scaffold



Potential of Fall from Ladder



Potential of Fall from roof



Fall on Same Level



2.1 Scaffolds: According to BLS, an average of 89 workers are killed from scaffolds each year.

Common hazards associated with all scaffolds: falls from elevation, because of loss of fall safety; the collapse of the scaffold, due to instability or overloading; being struck via falling tools, paintings substances, or debris; and electrocution, basically because of the proximity of the scaffold to overhead strength strains.

The majority of the workers injured in scaffold accidents attribute the accident to either planking or support giving way, or to the employees slipping or being struck by a falling object.

2.2 Ladders: BLS data show that each year falls from ladders account for approximately 100 fatalities.

Factors that contribute to falls from ladders are ladder slip (top or bottom), overreaching, slipping on rung/steps, defective equipment, and improper ladder selection for a given task.

2.3 Falls from one Floor To next floor: Falls from one Floor (level) to the next Floor (level) is a leading cause of fatalities in construction industries.

Floor holes are a common hazard. Edge protection missing is also cause of fall hazard. It is very easy to step backwards into holes, or step into them when carrying something that blocks one's forward view.

3. Analyze Work Area

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Analyzing work area for Potential source of fall hazards may include:

Reviewing blueprints before work begins



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Anticipating upcoming fall hazards as proposed work activity

⁷⁰ sosse ^{aet}Reviewing for current hazards on site

Plan Prevent Protect Pre-planning for fall protection

- Walk around and look
- Analyzing the work area is another important step in fall hazard prevention.

Analyzing the work area may include: reviewing blueprints before work begins; anticipating upcoming fall hazards as work progresses; reviewing current hazards on the site, and developing a pre-planning checklist

4. Hierarchy of Fall Hazard Control

- Engineer out and structural integrity
- Administratively prohibit exposure
- Personal protective equipment
 - Prevention of falls restraint systems
 - Personal fall arrest/positioning device systems

Elimination of fall hazards through engineering controls is the first and best line of defense against falls from heights. This requires a careful assessment of the workplace and the work process itself. The prevention of fall hazards through administrative controls is the second line of defense when fall hazards cannot be entirely eliminated. This involves making changes to the workplace to preclude the need to rely on the employee's behavior, and personal protective equipment to prevent falls.

Control of falls with personal protective equipment is the last line of defense. It should be considered only after determining that the fall hazard cannot be eliminated or prevented.

It can not to prevent to person falling but severity of harm will be reduce or minimize therefore risk will be control upto Tolerable level.

5. Controlled Access Zone Systems: A work area distinctive and honestly marked wherein

certain kinds of paintings (inclusive of overhand bricklaying) can also take vicinity without the usage of traditional fall protection structures – guardrail, non-public arrest or protection internet – to defend the employees running within the zone.

Controlled access zones are used to keep out workers other than those authorized to enter areas from which guardrails have been removed. Controlled access zones, when created to limit entrance to

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Plan Prevent Protect

areas where leading edge work and other operations are taking place, must be define by a control line or by any other means that restrict access.

Plan Prevent Protect

Accident

rent

Fall hazard is major potential source of Accident at work place. There may be several sources such as floor opening, loose material in access, uneven surface, use of defective ladder, tools, railing missing of stair case, poor method of work, Poor skill etc results of personnel injury or fatality. Fall hazard can be control through hazard control method and effective implementation of Safety Management system. Proactive approach such as JSA, HIRA is best method to identify hazard and ensuring adequate control measure to control fall related workplace risk. Use suitable Tools and equipments; don't use defective components in Scaffold to ensure scaffold safe. Need to carry out close monitoring to prevent unsafe practices and ensure adequate fall protection during working in elevated area or at height. Floor should free from any slippery material to prevent person slipping and falling.

Reference:

- OHSA, BLS
- Safety Management system in construction industries, Shahnawaz Rampuri, IJSEI, International Journal of Institution of Safety Engineers (India) Volume 1, Issue 1, Jan-Mar 2018
- ISEI Manual





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Plan Prevent Protect





RNSN SERIATE (P) LIMITED

About Us: RNSN Seriate (P) Limited is private company limited by share. RNSN Seriate (P) Limited is Engineering, Procurement, Construction, Manpower supply & multi solution Engineering Company. RNSN Seriate (P) Limited is an ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 certified company. Corporate Identification No. (CIN) of RNSN Seriate (P) Limited is U93090CT2018PTC008917. RNSN Seriate (P) Limited also provides Consultancy, Chartered engineering, ISO Auditing & Certification Services.

RNSN Seriate (P) Limited vision is to deliver world class best services and Products to our customer as per their expectation.

Sustainability: For sustainable business, RNSN Seriate (P) limited is committed to fulfil Social, Economic & Environmental requirements and ensure compliance as per applicable law, norms & codes. RNSN Seriate (P) limited will take all necessary steps to achieve zero harm, save natural resources and protect to environment.



Health, Safety & Environment (HSE) Policy

RNSN SERIATE (P) LIMITED is committed to ensure Safe healthy work environment to protect human being as well as Environment. In Order to achieve Health Safety & environment related objective, Policy is:

- Ensure compliance on based on relevant National, International Rules, Regulation, Norms & Codes
- To main high Safety Standard at workplace, we adopt best Safety Practices & Conduct Safety Program regularly.
- To Plan & effective implementation of Safety Health, Environment management system
- Being new organisation, always seek opportunities and Continual improvements in products, process, Services and Peoples to ensure compliance & standards.

RNSN Seriate (P) Limited takes all necessary steps to achieve zero harm & increase stakeholders satisfaction.



Quality Policy

RNSN SERIATE (P) LIMITED is committed to Manufacture, Supply products, Provide Engineering & Consultancy Services conforming to customer's quality standards and meet their requirements on time through effective planned activity and continual improvements of products, process, Services & Peoples to ensure compliance as per relevant national and International Norms, Codes & Standard.

RNSN Seriate (P) Limited take all necessary step adopt standard practices to maintain quality of Products, services & increase stakeholders satisfaction



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For any information/ query call +91-7509487141 Or mail <u>Info@rnsnseriate.com</u> For more details visit www.rnsnseriate.com

Date: 03/12/2018



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Director

⁴Safety Management System

ent Accident

A safety management system (SMS) is a systematic approach to managing safety at workplace, including organisational structures, accountabilities, policies, procedures and guidelines. Safetynt Protect Policy, Planning, Implementation & Operation, Checking & Corrective Action, Management Review & Continual improvements are element of safety management system.



⁵Environmental Impact Assessment

Environmental Impact Assessment (EIA) is effective method used to evaluate Potential effect of Proposed Projects or development, taking into account inter-related to Socio-Economic, Cultural Protect and impacts to human health, both adverse and beneficial.

Purpose to Carry EIA is evaluate Potential effect of upcoming/proposed project and ensuring effective control measure to mitigate or reduce such adverse effect that may degrade to environment and harm for living thing. EIA is statutory requirements and it depends on nature of projects. EIA is carried out through expert to consider respective state or country legislation. In simple word, Purpose of Assessment is to identify potential impacts and deciding proposed project have no adverse effect to environment, human and economy.

5.1 Pillar of EIA

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5.2 Stage of EIA



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arsweite Guilde	Scoping	Identified key issues from a board range of potential concerns	man
	Assessing	Direct, Indirect, Secondary, Cumulative, Short & Long Term, Second and Plan Prevent Project	<
	Mitigating	Reduce to undesired impacts of activity of Project	
	Monitoring	Environmental compliance as per respective state legislation and effectiveness of the mitigation measure.	
	Reporting	Preparation of Reporting	
	Reviewing	Review before Approval	

5.3 Generic Structure of Environmental Impact Assessment report as per draft EIA

Notification 2020

S.No	EIA Structure	Contents
1	Introduction	 Purpose of the report Details of project proponent: Name of the project; Name of the Company /or entity or firm or organization or trust or Joint Venture or Special Purpose Vehicle; Registered Address; Legal Status of the Company; Joint Venture if any; etc. Location of the project: Plot / Survey / Khasra number; Village; Tehsil; District; State; Pin Code; Latitudes and Longitudes of the project/activity site; Survey of India Topo Sheet number; Copy of Topo Sheet; Maximum elevation above MSL; kml file; Distance of nearest Highest Flood Level (HFL) from the project boundary within the study area; Seismic Zone; Nearest railway station; Distance from nearest railway station (in Km); Nearest Airport; Distance from nearest Town/City/District head quarter (Specify); Distance from nearest Town/City/District head quarter (in Km); Village Panchayats, Zila Parishad, Municipal Corporation, Local Body (Complete postal Address with pin code and Telephone Number); etc.
Accide		 Coordinates of the boundary project (preferable at each node) Maps showing general location, specific location, project boundary & project site layout Ecological sensitivity of the location of project: details and distance, if located within 10km from the Wildlife sanctuary or National Park or Protected Area or Biosphere reserve or Tiger reserve or Elephant reserves or Critically Polluted Area or Severely Polluted Area or Eco-sensitive area or Eco-sensitive Zone or State/UT Boundary or International Boundary or Hilly area or areas protected under international convention / national legislation / local legislation or cultural or other related value or wetlands or water bodies or coastal zone or pilgrim areas or tourist areas or defence installations, etc. Brief description of nature, size, category of the project: Item number in the schedule; Category (A/B₁/B₂); Type of the proposal (new/expansion/modernization); etc. Importance of project to the country, region in terms of environmental, social and or social and soc
Present in the second s	El Constantion	 financial Brief history of the project including earlier prior environmental clearance(s) and or consent(s), other clearances such as groundwater, surface water allotment, forestland diversion, wildlife clearance, mining plan approval, building plan approval, etc, in case of the expansion or modernization
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area	Se (Indi	+ 1/ a	Scope of the study: details of regulatory scoping carried out (As per Terms of
00	uunp sasso	1 05/UUUR	Reference); compliance of the Terms of References prescribed for the project in tabular
	an Prevent	Protect	form.
4	2	Project	Plan Prevent Protect
	_	Description	modernization the details pertaining to existing, proposed and cumulative after
		Description	expansion or modernization); etc.
			showing the project layout, components of the project etc.
			Raw material(s) and Fuel(s) required along with estimated quantity, likely source,
			Marketing area of final product (s) or by-products, mode of transport, distance,
			linkage ifany, etc.
			Details of water requirement (during construction / installation / commissioning / actablishment phase. Operation phase. redundancy (closure / diamentling phase.)
			Total water requirement; source; distance from source; method of withdrawal;
			mode of transport; details of permission /MoU, etc.
			Details of power requirement (during construction / installation / commissioning /
			Total power requirement; source; distance from source; method of tapping;
			details of permission
			/MoU; Stand-by arrangement), etc. Resourcing optimization/ recycling and refuse envisaged in the project if any
			should bebriefly outlined.
			Land requirement for the various activities, land ownership, status of land
			acquisition, etc.
			(Stage-I) Approval Obtained / Final (Stage-II) Approval Obtained / Forest
			Clearance Under Process (Stage-I) / Forest Clearance Under Process(Stage-II) /
			Application for Forest Clearance yet to be Submitted).
			and Details of Tree Cutting and Planting of Trees.
			Existing land use pattern (agriculture, non-agriculture, forest, water bodies
			(including area under CRZ or ICRZ)), shortest distances from the periphery of the project to periphery of the forests, eco sensitive areas, water bodies (distance
			from the HFL of the river), CRZ or ICRZ. In case of notified Industrial area, a
			copy of the Gazette notification should be given.
			/installation / commissioning / establishment phase; operation phase; redundancy
			/ closure / dismantling phase; Total Manpower.
			 Project Cost: Total Cost of the Project at current price level (in Lakhs). Dreased ashedula for any second single mentation.
			 Proposed schedule for approval and implementation. Schematic representations of the feasibility drawing which give information of
			EIApurpose.
			Sector specific details as per Form-2.
	3	Description of the	□ Study area, period, scope of baseline studies including components and methodology
		Environment	 Description of the pre-project or pre-expansion environmental scenario i.e.
			description of baseline data collected.
			 Summary of the baseline data. Base maps of all environmental components.
	4	Anticipated	 Details of investigated environmental impacts due to project location, possible
		Environmental	accidents, project design, project construction, regular operations, final
	Accide	Impacts & Mitigation	decommissioning or rehabilitation of a completed project.
20	Nenn -	Measures	establishment phase; operation phase; redundancy / closure / dismantling phase):
100	dentery	Envi	Type or source; quantity of waste water generated; treatment capacity; treatment
+	Multion of	(OTUTR)	discharged water; mode of disposal; details for achievement Zero. Liquid
arste	ALL HALF WITH	+ 12/2	Discharge, in case of proposed;
00	UNINP SPECE	A SELUTION	Conversion of the second during
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News & Journal Published by	ZJEWT in association with Institution of Safety Engineers (India), Govt. Reg. No. 5240 April-June 2020 Available online at www.ijournaliseindia.in
P an Prevent Protect	 Solid waste management (during construction / installation / commissioning / establishment phase; operation phase; redundancy / closure / dismantling phase): Type or source; quantity of solid waste generated; treatment capacity, treatment with method; quantity of treated solid waste used in recycling or reuse; quantity of the solid waste disposed; mode of disposal; Measures for minimizing and / or offsetting adverse impacts identified. Greenbelt development plan.
5 Analysis of Alternatives (Technology & Site)	 Alternatives in terms of technology and site. Assessment of new & untested technology for the risk of technological failure. Description of each alternative. Summary of adverse impacts of each alternative. Mitigation measures proposed for each alternative. Selection of alternative including justification.
6 Environmental Monitoring Program	 Technical aspects of monitoring the effectiveness of mitigation measures (incl. Measurement methodologies, monitoring frequency, monitoring locations, analysis of monitoring data, reporting schedules of monitoring data, emergency procedures, detailed budget, procurement schedules, etc.)
7 Additional Studies	 Details of Public Consultation including notice of public hearing, supervision, presiding over of the hearing, responses received in writing from persons having a plausible stake in the environmental aspects of the project, proceedings, and commitments of the project proponents on the issues raised during the public consultation along with time bound action plan and budgetary provision in the tabular form. Risk and Hazards identification, assessment and management supported by emergency preparedness plan and disaster management plan. Social impact assessment, social need assessment and management. Rehabilitation and Resettlement, if any: No. of Villages; No. of Households; No. of Project Displaced Families; No. of Project Affected Families; Funds Allocated for Rehabilitation and Resettlement; Status of Rehabilitation and Resettlement (Completed / In-progress / Yet to start); Action Plans, implementation schedules, budgetary provisions, etc. In case of project located in CRZ or ICRZ, the details as required under Form-2
8 Project Benefits	 Improvements in the physical infrastructure Improvements in the social infrastructure Corporate Environment Responsibility (CER) – activities proposed under the CER based, on the issues emerged during the public hearing or social need assessment, time bound, action plan, budgetary provision. Employment potential –skilled; semi-skilled and unskilled Other tangible benefits
9 Environmental Cost Benefit Analysis	If recommended at the Scoping stage
10 EMP	 Description of the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored, after approval of the EIA report/EMP Company 'Environmental Policy' duly approved by the Top Management Organization structure of environment management department / cell Mechanism of reporting of non-compliances/infringements, if any, to the board of directors, periodicity of the reporting, standard operating procedure for closure of non- compliances or partial compliances reported, if any.
11 Summary & Conclusion (This will Constitute the summary of the EIA Report and same can be used for Executive	 Project Description Pre-project or pre-expansion scenario (Baseline scenario) Anticipated environmental impacts Mitigation measures Environmental Monitoring Programme Additional Studies Project Benefits Environment Management Plan
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ar + Aim 60	News &	Journal Published by Vol. No. 3, Issue 2, A	7 ZJE April-	WT in association with Institution of Safety Engineers (India), Govt. Reg. No. 5240 June 2020 Available online at www.ijournal.iseindia.in	act Environm
1 Sal	SE (Indi	Summary)		Overall justification for implementation of the project	
200		- Thinks		Explanation of how, adverse effects have been mitigated	2
	12 ^{səsse}	Disclosure of		Name of the Accredited EIA Consultant Organization engaged with their brief	
	an Prevent	Protect Consultants	_	resume and nature of consultancy rendered.	
\leq		consultants		Details of Accreditation	\leq
		engaged		Details of EIA Coordinator and Functional Area Expert(s) involved in preparation of EIA.	
				Declaration of the EIA Coordinator and Functional Area Expert(s) involved in preparation of EIA as per Appendix-XIII.	

Basically EIA Prepared on based on statutory requirements of respective state or centre govt.





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JumpKing International is the supplier and manufacturer of Adventure products. A One-Stop online source for all the adventure needs. JumpKing International is 21-year-old company with the experience of 700+ Adventure projects in 38 countries and sales of 50,000+ adventure and amusement products in India itself. JumpKing International is clearly stand out in the product range that consists of 150+ different adventure sports & activities. Our experience and sales headquarter is in Bangalore. We are crazy enough to take any challenge, and our team is qualified enough to make it a reality. In the wake of the high level of risk & thrill involved in such indoor and outdoor activities, we only deal in brands, with brands and for brands

JumpKing International have successfully launched India's first FlyDining in Bangalore, others in Delhi NCR, Agra near Taj Mahal and launching in 12 more cities in India. It's a restaurant that hangs 150ft above in the sky giving guest a bird's eye view of the world below. FlyDining is a unique dining concept with 24 seats accompanied by a couple of staff members, including chef and photographers. FlyDining Concept is present in more than 40 countries around the world which includes Dubai, London, Malaysia and many more.

The FlyDining structure is a high-grade metal frame platform conceptualized and designed according to German norm EN 13814 and International Norm ISO 17842-1-2015. The complete Fly Dining structure is operated on 200-ton telescopic crane at a height of 50 meters (160 ft), handled safely and professionally by our highly-trained staff. Guests are secured by aircraft-standard safety belts on comfortable seats which can rotate a complete 180° and our attentive staff members are also secured by accredited Petzl harnesses.

Our Major Products are FlyDining.com and Jumpkingindia.com

For more Details visit: www.JumpkingIndia.com

Call: +91-9815303533 Email: sales@jumpkingindia.com





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ISE (India) Training Calendar (July-2020 to September-2020)

Plan PrevTraining Title/ Course	Duration	Schedule	Location	Plan Remarks	
ISE-SM (Safety Management at work place)	3 day or Min.24 hours Training	02/07/2020 to 04/07/2020	Raipur	E-Learning Regular mo	
ISE- ICCOHSEM (International Certificate course in Occupational Health Safety & Env. Mgt.)	Min. 96 hours Training	06/07/2020 to 14/07/2020	Raipur	E-Learning Regular mo Exam date 15/07/2020	
Hazard identification, Risk Assessment & Risk Management	3 Hours	17/07/2020 to 18/07/2020		E-Learnin	
Lead Auditor ISO 45001:2018	5 day	21/07/2020 to 25/07/2020	Raipur	E-Learnin Regular mo	
Lead Auditor ISO 9001:2018	5 day	27/07/2020 to 31/07/2020	Raipur	E-Learnin Regular mo	
ISE-SM (Safety Management at work place)	3 day or Min.24 hours Training	03/08/2020 to 05/08/2020	Raipur	E-Learnin Regular mo	
First Aid	1 days	07/08/2020	Raipur		
Integrated Lead Auditor (ISO 45001:2018, ISO 9001:2015, ISO 14001:2015)	6 days	10/08/2020 to 15/08/2020	Raipur	E-Learnin Regular mo	
ISE- ICCOHSEM (International Certificate course in Occupational Health Safety & Env. Mgt.)	Min. 96 hours Training	17/08/2020 to 25/08/2020	Raipur	E-Learnin Regular mo Exam dat 26/08/202	
ISE-TQM (Total Quality Mgt.)	3 day or Min.24 hours Training	27/08/2020 to 29/08/2020	Raipur	E-Learnin Regular mo	
ISE-SM (Safety Management at work place)	3 day or Min.24 hours Training	02/09/2020 to 04/09/2020	Raipur	E-Learnin Regular mo	
ISE- ICCOHSEM (International Certificate course in Occupational Health Safety & Env. Mgt.)	Min. 96 hours Training	07/09/2020 to 15/09/2020	Raipur	E-Learnin Regular mo Exam Dat 16/09/202	
Lead Auditor ISO 45001:2018	5 day	21/09/2020 to 25/09/2020	Raipur	E-Learnin Regular mo	
ISE-EM (Environmental Management)	3 day or Min.24 hours Training	28/09/2020 to 30/09/2020	Raipur	E-Learnin Regular mo	
ISE- IDOHSEM (International Diploma in Occupational Health Safety & Env. Mgt.)	One year	Last Date of Registration 29/09/2020	Raipur	E-Learnin Regular mo Exam Date . 2021 (Propo	
Diploma Post Diploma in industrial Safety/Fire/Env.	One year	June-July (2020-21)	Raipur/ Rampur 5	Regular	

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News & Journal Published by ZJEWT in association with Institution of Safety Engineers (India), Govt. Reg. No. 5240 LISEI, Vol. No. 3, Issue 2, April-June 2020 Risk assessment & Control, Behaviour based safety, chemical safety in industries, Safety in construction industries, Scaffolding safety, Petroleum & Gas industries safety, Ergonomics, Mock Drill, HAZOP study, Emergency planning, Disaster Mgt., Fire Safety, Environmental Mgt., ELA: Protect Like Training also conduct as per Need.

Note: Diploma & ISE-IDOHSEM Courses conducted twice in a year. December-January session known as winter session and June-July session is known as summer session.



For more details visit **www.iseindia.in** or mail **info@iseindia.in** Call +91

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