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Analysis of The Application of Hazard Identification Risk Assessment and Control (HIRAC) In Supporting Zero Fatality Targets at PT. Solusi Bangun Andalas

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Abstract

This study explores the application of Hazard Identification, Risk Assessment, and Control (HIRAC) to support the Zero Fatality Target at PT. Solusi Bangun Andalas (SBA) company. It employs a descriptive phenomenological approach, focusing on the experiences and insights of individuals directly involved in identifying hazards, assessing risks, and managing potential threats in their work environment. This research analyzes 244 safety reports from 2016 to 2022 at SBA, focusing on the most frequently encountered issues for further examination through the HIRAC framework. Specifically, it highlights the problems of cable short circuits and falling objects. A cable short circuit is recognized as a potential hazard caused by both internal and external exposure of cables. Falling objects pose another risk, stemming from materials that may fall from heights during specific activities. The application of HIRAC at SBA has proven effective in reducing the incidence rates and consequences associated with unsafe conditions, ultimately enhancing the occupational safety and health of workers.

Keywords: HIRAC, Cable short circuit, falling objects, Zero Fatality, Occupational Safety and Health

1. Introduction

The cement industry is a vital sector in infrastructure development that underpins a nation's economic growth. Its operations involve complex production processes that rely on high-tech machinery, sophisticated electrical systems, and extensive power distribution networks. Consequently, the safety and reliability of these electrical systems are essential for ensuring operational sustainability and are considered critical factors (Dharma, 2017). Furthermore, the cement industry encompasses various activities, such as raw material processing, material transfer, and heavy equipment operation. These elements contribute to a work environment with considerable risks, including potential work accidents caused by falling objects. Due to the harsh working environment, including exposure to dust, high temperature, and humidity that can accelerate the degradation of cable insulation, there is a high risk of cable short circuits in the cement industry (Wati & Nugroho, 2023). On the other hand, the lack of routine maintenance, inappropriate installation, and the low quality of the materials used further increase the occurrence of cable short circuits (Marsudi, 2005). In addition to the risk of cable short circuits, the risk of falling objects is also increasing in the cement industry. Some factors increase the risk of falling objects, such as the use of cranes, forklifts, and other lifting equipment, as well as activities in construction areas or maintenance of machinery at height.

Serious impacts caused by falling objects such as serious injuries, fatality, property damage, and halted operational activities. Suboptimal supervision and implementation of OHS as well as safe behavior and environmental conditions at work are the causes of work accidents (Puspitasari, 2010).

Based on safety observation data recorded from 2016 to 2022, shows a significant number of records of cable short circuits and falling objects that have occurred in the last 6 years at PT. Solusi Bangun Andalas (SBA) company, which are classified as near misses. According to OSHA (Occupational Safety and Health Administration), Nearmiss is defined as an unexpected event that almost occurs which results in injury, property damage, or operational losses. Based on observation data regarding electrical issues, 19 reports regarding cable short circuits. Regarding operational issues, there are 32 reports of falling objects, so these two things are the priority of search in qualitative descriptive research related to HIRAC. The data on reports of short circuits and falling objects over the past 8 years are shown in the following table and graph:

Table 1. Electrical Case Observation Safety Report

Point of Issue	Electrical			
	Cleaning	Fatigue	Procedure	Short
	2	5	1	19

Table 2. Operational Case Observation Safety Report

Point of Issue	Operational				
	Falling object	Fatique	HME	Hot/Fire	Others
	32	8	8	9	7

Occupational Safety and Health (K3) is the most important thing in the industry. It must be a top priority in running operations (Ramli, 2010). Maintaining the safety and health of workers, contributes to advancing a company due to increased worker productivity and avoiding losses in terms of both human resources and equipment damage caused by work accidents (Ramadhan et al., 2021). Work accidents in Indonesia based on BPJS employment data are in the high category with a total of 1,412,286 cases that have occurred in the last 8 years. The following is data on work accidents from 2015 to 2022 according to BPJS Employment.

Table 3. Data on Work Accidents in Indonesia

Year	Number of Work Accident Cases
2015	110.285 Cases
2016	101.367 Cases
2017	123.040 Cases
2018	173.415 Cases
2019	182.835 Cases
2020	221.740 Cases
2021	234.270 Cases
2022	265.334 Cases

Figure 1. Graph of Accident Cases In Indonesia

According to the BPJS employment (as an employment insurance) of Aceh province, the number of work accidents that occurred was 105,182 cases, 80,392 cases, and 157,313 cases in the 2016-2017-2018 period (BPJS Employment, 2019). Damage to production equipment, process losses, and casualties are undesirable things in an industrial operation so it is necessary to take action to minimize hazards and risks in a structured manner by implementing work safety management in the industry. (Saeed, 2017). A series of rules and policies, rules and practices designed to prevent accidents, injuries, and diseases arising from work activities carried out by each worker (Suma'mur, 2014). Occupational safety management focuses on occupational safety and health and ensures a safe working environment for all workers, this is stated in Law Number 1 of 1970 concerning Occupational Safety (Daryaningrum et al., 2015). In the industrial world, there are many unsafe acts committed by workers, or unsafe conditions that often arise but are considered trivial and not dangerous. This is done consciously (underestimating the rules set) or unconsciously due to a lack of knowledge about unsafe acts or conditions that occur around workers (Supriyadi, 2015). Several unsafe acts or conditions occur in the industrial world, namely the Cable Short / Short Circuit hazard and the Falling object hazard. These two things have a significant impact on the danger that can cause fatality or death for workers, or stop the production process to reduce operational efficiency.

A short circuit of two points has a potential difference in the electrical system so that a large current is generated which causes damage to the system components, called Cable Short (Badaruddin & Arsyad, 2016). (Rachman & Subiyanto, 2017) says that a short circuit is one type of disturbance that occurs in electrical cables. Technically, a short circuit is a disturbance that occurs in an electrical system where 2 conductors have different voltages connected with low electrical resistance so that a large electric current arises. The electric power system has three parts, including the electricity distribution system, the electricity transmission system, and the electricity generation system, electrical energy is needed by the industry in today's modern era. (Nurdiana, 2016). Several factors cause short circuit interference for example, external factors can be heavy rain, storms, falling trees, and all kinds of other natural disasters, and internal factors that cause interference, namely damage to the electrical equipment itself in the electrical system (Alfianto, 2015). In addition to these factors, disturbances are also caused by permanent and temporary disturbances, examples of permanent disturbances are insulator failure, damage to conductors and damage to other equipment will cause permanent damage, while temporary disturbances can be resolved by using CB (circuit breaker) or other safeguards (Kumolo, 2016). Falling objects are defined as objects that are detached from their original position due to mechanical failure, human negligence, or environmental factors that can cause work accidents, physical injury, or property damage (ILO, 2018). Accidents due to falling objects are one of the accidents that can have a fatal impact and receive less special attention (Wu et al., 2013). It is not uncommon for falling objects to cause accidents that have an impact on workers, ranging from minor injuries to serious injuries, amputations, and even death. Therefore, it is important to take precautions against all forms of risk that exist.

The purpose of this research is to explore the main causes of cable short circuits and falling objects that occur in the cement industry, the impacts caused, and the efforts made to prevent cable short circuits and falling objects in the future. This is not only to minimize economic losses due to disrupted production processes but also to increase the level of safety and health of workers. With a descriptive qualitative approach, this study is expected to provide insight and an in-depth understanding of the patterns of falling objects and cable short circuit incidents and provide practical recommendations for company management in the cement industry in managing the risk of falling objects and cable short circuits more accurately. As a preventive measure for work accidents, so that fatality (death) can occur, the Hazard Identification Risk Assessment and Control (HIRAC) system is applied with a systematic approach to regulate Occupational Safety and Health (K3) at the work site (Kabul & Yafi, 2022). Identifying, assessing, and controlling the risks that can occur in a job is the function of implementing HIRAC. The HIRAC will reduce risks and minimize hazards that can occur in the work environment because HIRAC takes a step-by-step approach, one of which is a phenomenological approach so that the objectives of HIRAC can be realized. The descriptive phenomenology approach is an approach that focuses on qualitative research by exploring the experiences and understanding of individuals who feel directly and are involved in identifying hazards, assessing risks, and controlling potential threats to the work site or environment (Fadli, 2021). The HIRAC approach allows for a deeper exploration of its principles and practices in the field. Additionally, it sheds light on how stakeholders perceive risks and hazards when analyzing workplace conditions. By utilizing HIRAC in conjunction with a phenomenological approach, we can effectively identify hazards based on the subjective experiences of workers or individuals, uncovering potential dangers that may go unnoticed by traditional objective methods. (Mauliyani et al., 2022). The active participation of each individual in the process of identification, risk assessment, and risk control will give the impression of having a role and responsibility in the prevention of work accidents. Adjustment of workers' work experience so that identification, control, and prevention measures are developed that are not only based on objective data but also consider the experience and feedback of those directly exposed to risk (Munawir & Hapsari, 2021). With the cooperation of all workers in the operational plant, SBA received several awards in the field of Occupational Safety and Health (K3), including:

1. Zero Accident Award (ZAA) from the Ministry of Labor of the Republic of Indonesia in 2022
2. Zero Accident Award (ZAA) from the Ministry of Labor of the Republic of Indonesia in 2023

3. Occupational Safety and Health Award (zero work accident) from the Ministry of Manpower in 2024 which was handed over by acting (Pj.) Governor of Aceh Province.

With the contribution of all workers, SBA is determined to achieve 10 million safe working hours targeted by management as a joint target of workers, shareholders, and stakeholders.

2. Literature

The implementation of Occupational Safety and Health (K3) is a form of effort to create a workplace that is free from work accidents, environmental pollution, and occupational diseases (PAK) experienced by workers to increase production efficiency and worker productivity (Kuswana, 2019). Occupational Safety and Health is defined as a systematic action as a step to protect workers from work accidents and diseases caused by work. The Domino Theory explained by Heinrich in 1931 explains that work accidents that occur are a series of interrelated factors and eliminating one factor can prevent accidents.

2.1. Hazard

Hazards are potential sources of injury and ill health (CGL1404 SBI, 2020). (Karundeng et al., 2018) states that a Hazard is an object where there are energy, substances, or working conditions that can potentially threaten safety. In general, hazards, according to (Suwardi & Daryanto, 2018) can be classified into two, namely as follows:

1. Safety Hazard

Occupational safety hazards are hazards that have an impact on the emergence of work accidents that can cause injury, disability to death, and property damage. The impact caused is acute.

2. Occupational Health Hazard

Occupational health hazards are hazards that have an impact on human health and occupational diseases. The impact is chronic.

2.2. Risk

According to OHSAS 18001, risk is a combination of the likelihood of a hazardous event or exposure and the severity of injury or health problems caused by the event or exposure. According to CGL 1404 of PT Solusi Bangun Indonesia (SBI) company (as a parent company of SBA), Risk (K3 Risk) is the effect of uncertainty (on goals). Risk can be a combination of the likelihood of the occurrence of hazardous events and/or exposures associated with work and the severity of injury and ill health that can be caused by the existence of such events or exposures.

2.3. HIRAC (Hazard Identification, Risk Assessment, and Control)

The HIRAC steps in OHSAS 18001: 2007 are carried out in 3 steps (Supriyadi & Ramdan, 2017), namely:

- Hazard Identification
- Risk Assessment
- Risk Control

In CGL 1404, SBA states that hazard identification is a process to find all potential hazards that exist in an activity from the work environment, equipment, and the workers themselves. Hazard identification is the foundation of an accident prevention or risk control program.

Table 4. Occurance Assessment

Possibility	Scale
Very Frequent (Daily)	5
Frequent (Weekly)	4
Occasionally (Monthly)	3
Rare (Yearly)	2
Possible (Uncertain)	1

Risk assessment is carried out by finding the value of Risk relative where this value is the result of multiplying the Likelihood value with the Severity value (Karundeng et al., 2018). Risk assessment is carried out after potential hazards have been identified to determine the magnitude of the risk posed (Jaiswal et al., 2014). Based on CGL 1404 of SBI company, 2020 explains that risk control plans can be carried out based on the concept of the risk control hierarchy (Control) as follows:

a) Elimination
b) Substitution
c) Engineering
d) Administrative control
e) Personal protective equipment

The OHS hazard control hierarchy is a guide for selecting and implementing hazard control measures in the workplace. It ranks control methods from the most effective to the least effective, intending to eliminate or minimize risks to workers. In the context of HIRAC, the approach can be used to understand how workers experience and respond to workplace hazards. This approach provides an in-depth insight into working conditions from the worker's perspective, resulting in a more comprehensive risk assessment and control measures that are more effective and accepted by workers (Novianti, 2013).

3. Method

This study used a qualitative approach with a phenomenological design aimed at understanding the experiences and perspectives of workers, this is suitable for exploring the life experiences of respondents regarding the application of HIRAC. With this research model, researchers will obtain information by hearing directly from respondents so that they get a comprehensive explanation, whether from verbal expressions, body movements, or facial expressions. This research was carried out from November 2024 to January 2025 at SBA company. Research informants are people who are considered to know well the problem being researched and are willing to provide information to researchers. The information provided can be in the form of experience, knowledge, or their perspective on the problem. These informants play an important role in research, especially in qualitative research with a phenomenological approach design because they will be directly related to and understand life experiences regarding the implementation of HIRAC. The selection of informants in this research used a purposive sampling technique, namely workers who have direct experience and are relevant to research in implementing HIRAC. In this study, informants were divided into:

1. Main Informant; Workers who are actively involved in the data collection process, they work directly related to cable short circuits and the danger of falling objects
2. Key Informants; Has a central role in research because he has in-depth knowledge and experience regarding the research topic. They are people who have an Electrical K3 license and electrical managers who have knowledge and authority related to cable short circuits. And for the danger of falling objects, they are Area Managers who correct or evaluate any problems related to worker safety in their area
3. Supporting Informants; Provide complementary information from various points of view to enrich research data. These workers know very well the risks that threaten the main workers. They are the Electrical Superintendent and safety leader of the vendor in charge of short-circuit cable problems and the danger of falling objects.

The instruments used in this research are:

1. Report
2. Open an online questionnaire via a Google Form to workers within the SBA, with a Likert scale.
3. List of interview questions for informants regarding falling objects and cable short circuits.
4. Field observations regarding cable short circuits and falling objects

The results of both primary and secondary data were analyzed and interpreted. The description is the conclusion of the study results, and is a finding that is expected to be able to answer this research question, namely how to apply Hazard Identification Risk Assessment and Control (HIRAC) in Supporting the Zero Fatality Target at SBA company.

4. Result and Discussion

4.1. Report Analysis

Safety report data summarized from 2016-2022 amounted to 244 reports, from the total data recorded there were at least 36 reports on electrical problems, 82 reports on operations, and 54 reports on procedures.

Table 5. Safety Report of 2016-2022

Years	Categories				
	Electrical	Slippery	Operational	Tools	Procedure
2016	8	1	3	4	6
2017	8	4	8	0	4
2018	13	5	36	0	14
2019	2	0	20	0	17
2020	0	0	5	0	2
2021	1	0	3	0	5
2022	4	0	7	0	6
Total	36	10	82	4	54

Narrowing down the 36 reports on electrical problems, 82 reports on operations, and 54 reports on procedures to 19 reports on cable short circuits, 32 on falling objects in operations, and 24 reports on falling objects in procedures, so that this research focuses on 2 things, namely short circuit cables and falling objects.

4.2. Instrument Accuracy Test

4.2.1. Instrument Accuracy Test: Questionnaire Data & Field Observation

Furthermore, as a follow-up assessment process, we distributed questionnaires using the Likert scale as answer choices, as well as conducted field observations to confirm the results of respondents' questionnaire answers. We asked 5 questions, and then the questions, answers, along with the results of the field observations we conducted are explained as follows.

Question 1 : How often do you find cables that have the potential to cause short circuits in the workplace?

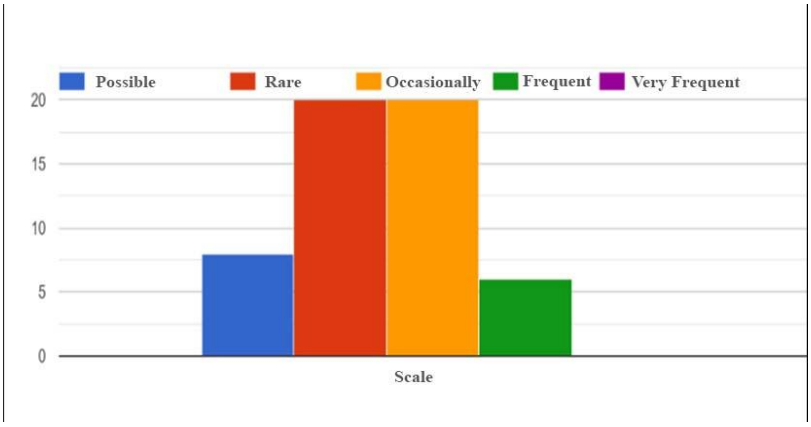

Figure 2. Frequency of Finding Potentially Short-Circuited Cables

Respondents to the questionnaire above stated that 21 were "occasionally" and 20 were "rare". However, there are 6 respondents who stated "frequent". Our results of report analysis and field observations show cables have the potential to cause short circuits are less frequent, but this can happen due to several factors, such as being hit by a jackhammer, exposure to rain and heat, or the lifetime of the cable itself.

Question 2 : How likely is it that a cable short circuit will occur in your workplace?

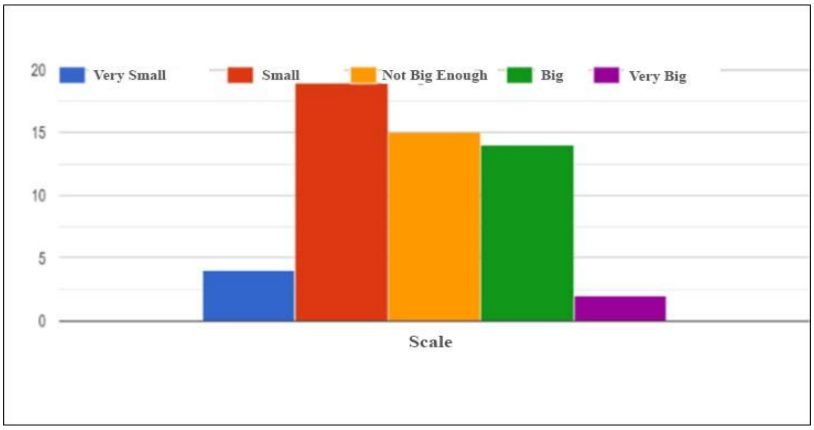

Figure 3. Possibility Of Short Circuit

The questionnaire above states that 14 respondents stated that it was "big", and 3 stated that it was "very big" that a cable short circuit would occur. Our results of report analysis and field observations reveal the possibility of a short circuit is still relatively large, this is caused by external factors from cable operations, such as a lack of caution when cleaning that damages the cable and operations stop. Natural factors also cause cable short circuits, such as heavy rain, which causes wet cables to short circuit.

Question 3 : How likely is it that falling objects will occur in your workplace?

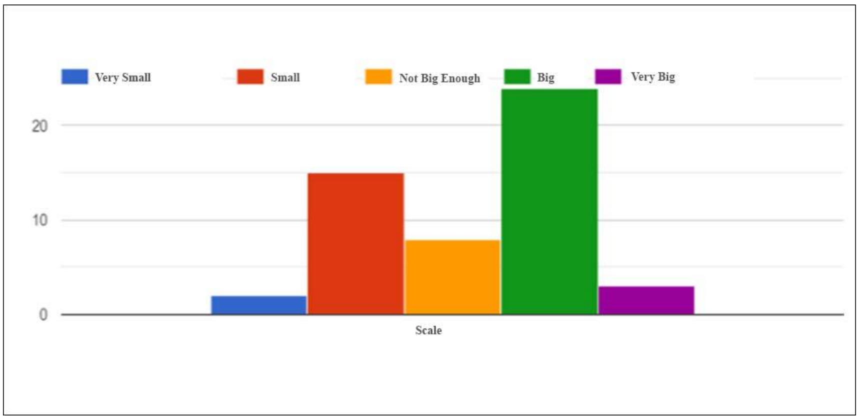

Figure 4. Possibility Of Falling Objects

The questionnaire above states that there are 25 respondents stating "big" and 3 stating "very big". Our results of report analysis and field observations reveal the possibility of falling objects occurring is still relatively large due to activities such as lifting and transporting with mobile cranes, installing scaffolding at heights, the potential for falling roller belt conveyors from their hangers, etc. All of these potentials are prevented by installing safety nets, limiting the fall area by installing barricade lines, and controlling them in the Permit to work which has been socialized before the work is started.

Question 4 : How often do you attend training related to controlling the risk of falling objects?

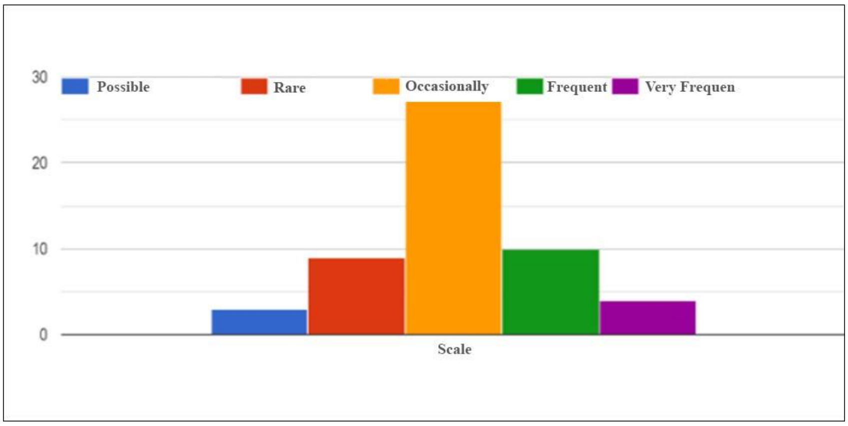

Figure 5. Training Attend Frequency

The questionnaire above states that "occasionally" and "rare" training is carried out related to the control of falling objects, which was stated by 38 respondents. Our results of report analysis and field observations show that training is carried out periodically with a minimum intensity of 1x / year regarding the introduction of falling objects, personal protective equipment and emergency response simulations. This is still felt to be lacking because the intensity of the training is very minimal.

Question 5 : How accurately does the HIRAC system identify falling object hazards on the work site?

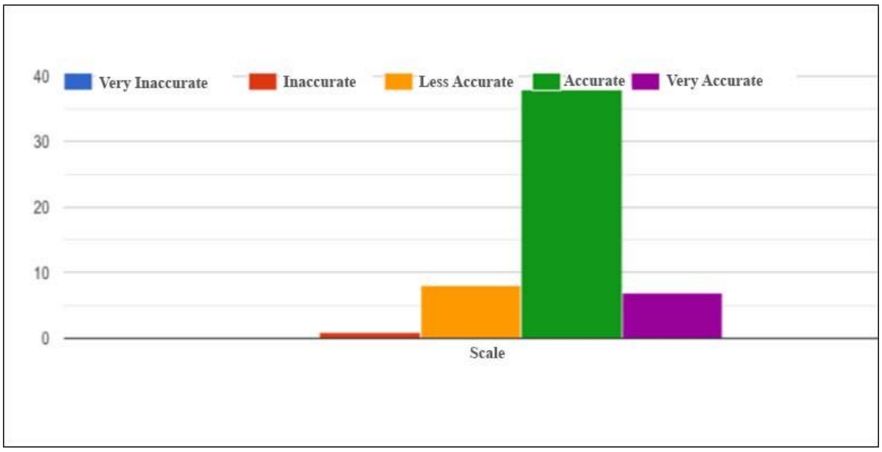

Figure 6. HIRAC Accuracy

The questionnaire above states that the HIRAC system is “accurate” by 39 respondents, but 8 respondents stated that it is “less accurate” and 1 stated that it is “inaccurate”. The results of our field observations, and also from the analysis we carried out on the HIRAC documents, show that the accuracy of the HIRAC system is already sufficient, but some jobs have not been identified as falling object hazards when work is carried out simultaneously or in parallel with mobile crane activities. If this is found, then there must be changes to the work permit by including the potential for falling objects in the work.

4.2.2. Instrument Accuracy Test: Interview Data & Field Observation

Next, we conducted in-depth interviews with these respondents regarding the possibility of electrical short circuits and falling objects and to see the utilization and effectiveness of the HIRAC approach. We also carried out field observations as proof of the results of respondents' answers in this interview approach. Questions and descriptions of answers, as well as the results of our field findings can be seen as follows.

1. Electrical Short Circuit Issues

Questions

1. How does the company ensure that all potential electrical short-circuit risks are properly identified?
2. How does the company determine priority control measures for electrical short circuit risks?
3. What steps has the company implemented to prevent electrical short circuits?
4. How do you evaluate the effectiveness of the HIRAC system in managing electrical short-circuit risks?
5. Are there any challenges in implementing the HIRAC system concerning electrical risks in the cement industry?

Respondent's Answers

1. Risk identification is carried out through inspections and testing using a continuity cable test with a multi-tester. For larger cables, a larger device can be used. Normally, cables do not short circuit; short circuits occur when a phase of the cable comes into contact with another phase or ground due to damaged insulation caused by pressure, friction, impact from hard objects, or overheating.
2. Prioritization is based on the service voltage of the cable. High-voltage cables operating at 10,500 volts require immediate action due to the high hazard potential if they come into contact with equipment or workers, necessitating urgent repairs. For low-voltage cables, the work can be postponed as they fall into a lower priority category, and temporary isolation can be applied before scheduling repairs.
3. Field inspections are the key preventive measure. Additionally, thermographic monitoring is conducted, measuring temperature at cable terminals, motors, equipment, and electrical room incoming connections. This greatly contributes to preventing electrical short circuits. Another important factor is cable cleanliness—cables buried under materials have a reduced lifespan, which can lead to short circuits.
4. While the procedures are already in place, the main challenge is ensuring consistent implementation. For jobs with Safety Working Procedures (SWP), adherence to these procedures must be strictly followed to maintain worker safety. The effectiveness of HIRAC in managing electrical short circuit risks is approximately 60%.
5. The main challenge is maintaining consistency in executing hazard identification, risk assessment, and risk control measures.

Field Observations

1. Routine inspections are implemented—for the production team, inspections are conducted three times per shift during working hours. The electrical and CBM teams have their own scheduled inspections.
2. Prioritization is based on voltage levels—the higher the voltage, the higher the priority for inspection and corrective action.
3. Use of industry-standard cables, proper installation, and regular maintenance checks are conducted.
4. Monitoring reports—if there are no reported electrical short circuits, the system is considered effective.
5. Consistency in conducting routine inspections is emphasized, along with ensuring that any detected short circuits are properly reported.

2. Falling Object Issues

Questions

1. What are the sources of falling object hazards that you frequently encounter in the workplace?
2. How do you identify areas with a high risk of falling objects?
3. What criteria are used to assess the level of risk associated with falling objects in the workplace?
4. What steps are usually taken to prevent the risk of falling objects?
5. Does the HIRAC system help you in identifying, assessing, and controlling the risk of falling objects? If so, how is it implemented?

Respondent's Answers

1. Falling materials were thrown from upper floors beyond the barricaded area. Another finding is in the tunnel area, where cracked concrete results in falling debris that nearly hits workers.
2. By inspecting the physical condition of buildings, such as in tunnels, where initial identification focuses on cracks, which gradually expand over time. For materials falling from heights, the initial identification is based on work techniques, such as scaffolding installation, where the absence of a toeboard increases the risk of falling materials.
3. Risk assessment is based on the likelihood of thrown materials hitting workers, leading to the installation of sufficiently wide barricades to prevent workers from entering the drop zone.
4. Risk mitigation is implemented based on the control hierarchy, including Elimination, Substitution, Engineering Controls, Administrative Controls, and Personal Protective Equipment (PPE).
5. The HIRAC system is very helpful as it allows us to learn from documented risks and apply those insights to our work. Although the written HIRAC may not always be identical to real situations, we can extract useful knowledge and implement it accordingly.

Field Observations

1. Common sources of falling object hazards in the field include materials discarded from height during cleaning activities. Additionally, there is a risk of rollers falling from belt conveyors that lack safety nets.
2. Area assessments are conducted before work begins, serving as a personal risk assessment instinctively performed by each worker.
3. The level of falling object risk is assessed based on the impact of the hazard.
4. Preventive measures are implemented following the hierarchy of controls.
5. The HIRAC system is highly effective in identifying, assessing, and controlling falling object risks, helping to prevent workplace accidents.

5. Conclusion

Based on the research findings, the conclusions are as follows.

1. HIRAC is a systematic process used in risk management to identify hazards, assess associated risks, and implement appropriate controls to reduce or eliminate risks.
2. Electrical short circuits are identified as potential hazards caused by internal and external exposure. Internal exposure relates to the lifetime and type of cable. External exposure involves vibrations, high temperatures, improper installation, and long-term material accumulation.
3. Falling objects are identified as potential hazards resulting from materials falling from heights, including: Cleaning and material disposal activities, Falling debris from damaged buildings, Lifting and transporting materials,
4. Electrical short circuit risks can be fatal, especially with high-voltage cables, potentially leading to fires and damage to operational equipment.

5. Falling object risks range from moderate to high, depending on the type of material and its falling height. If a falling object hits a worker, it can result in serious injuries or fatalities.
6. Preventive measures for electrical short circuits include: Routine maintenance, Scheduled inspections by shift workers (first-level inspection) and CBM teams (second-level inspection)
7. Preventive measures for falling objects involve the use of personal protective equipment (PPE) such as: Helmets, Safety glasses, Safety shoes, and standardized workwear, installing disposal chutes and winches at the top of cement silos and buildings to safely lower materials, and eliminating the risk of falling objects.
8. The HIRAC approach at SBA has been proven effective in: Reducing the percentage of unsafe conditions, Minimizing the impact of workplace hazards, and Improving worker safety and health.

These findings explain that the HIRAC approach model has been proven to be able to handle work safety problems at the SBA company. Academically, these findings are proof of the effectiveness of the HIRAC approach and can be a reference for future researchers, especially in the field of occupational safety, in developing this approach. Practically, from the existing findings, several recommendations were formed especially for the subject of this study.

1. Regular inspections of electrical installations should be conducted to ensure early detection of potential short circuits.
2. Routine maintenance should be carried out on electrical equipment, especially in areas exposed to high temperatures, cement dust, and material accumulation, which may contribute to electrical short circuits.
3. Specialized training should be provided to workers on electrical risk management and safety procedures in areas with high potential for short circuits.
4. Refresher training or Toolbox Meetings (TBM) should be conducted for workers to emphasize the importance of using personal protective equipment (PPE), especially in operational areas.
5. A Safety Working Procedure (SWP) should be prepared for tasks involving electrical cables and falling objects to ensure workplace safety.
6. All work must be ensured to have proper permits from the area owner, job owner, job supervisor, and team leader before execution.

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