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Analysis of Occupational Health and Safety (OHS) Implementation in the New Building Construction at UPT Railway Resort 8.10 Sidotopo

Mohammad Affan Aldianto*, Amarin Yudhana, M. Ali Sodik, Reny Mareta Sari
STRADA Indonesia University
Corresponding author: affanaldianto3@gmail.com

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ABSTRACT

The implementation of Occupational Health and Safety (OHS) is a crucial aspect of construction projects to protect worker safety and improve work efficiency. Although regulations such as the Ministry of Public Works and Housing Regulation (Permen PUPR) No. 10 of 2021 have been enforced at the UPT Railway Resort 8.10 Sidotopo, challenges remain in their practical application on site. This research employs a descriptive qualitative approach through direct observation and in-depth interviews with workers, foremen, and OHS officers at the project location. The analysis compares field conditions against applicable OHS regulatory standards and relevant theoretical literature. Results indicate that OHS implementation in this project is administratively compliant, including daily briefings, routine inspections, and the provision of personal protective equipment (PPE). However, inconsistencies were found in the use of PPE by workers, especially under hot working conditions and high schedule pressure. Factors such as leadership, facilities, training, as well as psychosocial aspects and safety culture influence the level of worker compliance. A comprehensive approach is needed by strengthening the safety culture, providing more interactive training, and integrating the Prevention through Design principle to mitigate work risks from the planning stage. Active worker participation and adaptive risk management are also key to creating a safe and sustainable work environment.

I. Introduction

Occupational Health and Safety (OHS) is a crucial aspect in ensuring the health, safety, and welfare of workers in the workplace, particularly in the construction sector, which is known for its high-risk environment. The primary objective of OHS is to prevent workplace accidents, protect the workforce, and create a safe working environment for all parties involved.

The implementation of OHS is important from moral, legal, and financial perspectives. Morally, OHS reflects concern for worker welfare as part of the ethical responsibility of an institution (Setiawan, Hadi, & Prasetyo, 2021). According to Freeman's (1984) stakeholder theory, a company is responsible not only to its shareholders but also to employees as one of the main stakeholders (Ramadhan & Nugroho, 2020). Legally, the implementation of OHS is regulated under various laws, such as Law No. 28 of 2002 concerning Building Construction, Law No. 13 of 2003 concerning Manpower, and Ministerial Regulation of PUPR No. 10 of 2021 regarding Guidelines for Construction OHS Management System (Putri, 2020; Ministry of

PUPR, 2022). Failure to comply with these regulations can result in administrative sanctions and reputational losses. From a financial perspective, workplace accidents cause significant losses for companies, including medical expenses, compensation, and productivity losses (Saputra & Wijaya, 2022).

Data from BPJS Ketenagakerjaan show that the rate of workplace accidents in Indonesia remains high and tends to increase, with 139,258 cases recorded in 2022 and losses exceeding 280 billion rupiahs (BPJS Ketenagakerjaan, 2022). In the construction sector specifically, risks such as falls, the use of heavy machinery, and limited use of personal protective equipment (PPE) are the main causes of accidents (Ningsih, 2020; Sari et al., 2021). One notable case occurred at the construction project of the New Building at UPT Resor Jalan Rel 8.10 Sidotopo, where a worker experienced an accident due to using a grinder without adequate PPE (Mustofa, 2020).

The implementation of OHS in the field is often still weak due to a lack of awareness, minimal training, and weak law enforcement. This situation is exacerbated by insufficient PPE supplies and the absence of clear responsibility from project management. Previous studies have shown that OHS training and the implementation of a work culture such as 5R (Sort, Set in Order, Shine, Standardize, Sustain) can significantly reduce accident rates (Septianto & Wardani, 2020; Saputra & Sampurna, 2022).

Based on this background, this study aims to analyze the implementation of OHS in the construction project of the New Building at UPT Resor Jalan Rel 8.10 Sidotopo and to assess its compliance with the applicable regulations, particularly Ministerial Regulation of PUPR No. 10 of 2021. This project site was selected because it represents an active construction project with high-risk characteristics and provides sufficient data and access for direct information collection. This study is expected to provide a realistic overview of the OHS implementation conditions in the field and the factors influencing them.

II. Methods

This study employed a descriptive-qualitative method to analyze the implementation of OHS in the construction of the New Building at UPT Resor Jalan Rel 8.10 Sidotopo based on Ministerial Regulation of PUPR No. 10 of 2021. The focus included aspects of OHS planning, implementation, and reporting, as well as the causes and factors influencing workplace accidents. The data used were qualitative, obtained from primary sources (observations and interviews with project leaders, supervisors, experts, and workers) and secondary sources (OHS documents). The data collection techniques included observation, interviews, and documentation. Key informants were selected based on the relevance of their experience and direct involvement in the project. The validity of the data was tested through source triangulation. Data analysis was conducted interactively through stages of data collection, data reduction, data display, and drawing conclusions.

III. Results and Discussion

Based on the results of the study conducted at UPT Resor Jalan Rel 8.10 Sidotopo, which was a technical implementing unit responsible for the management and maintenance of railway infrastructure and other supporting facilities in East Surabaya, this location plays a strategic role in supporting national railway operations, particularly in areas known for dense construction and infrastructure development activities. The new building under construction aimed to support the performance of UPT and enhanced the comfort of staff and field technicians. However, the working conditions in the open area, characterized by high mobility, heavy loads, and traffic, require the optimal implementation of Occupational Health and Safety (OHS). The key informants for this study were the employees and construction personnel who were directly involved in the new building construction project. They came from various technical and

administrative professional backgrounds. A description of the informants' characteristics could be seen in the table below.

Table 1. General Characteristics of Informants

Characteristics	Description
Background Profession	Engineering (Civil, Electrical, Mechanical); partially Administration/Management
Education Level	Diploma–Bachelor
Work Experience	3–>15 tahun
Place/work environment	Sidotopo, East Surabaya; area with dense construction and railway traffic
Role in the Project	Technical planning, construction supervision, reporting, and documentation

In addition to the informants' characteristics, the researcher also presented the study's demographic data, as follows:

Table 2. Demographic Data

Characteristics	Category	Amount	Percentage
Age	25-40 Years	7	70
	>40 Years	3	30
Work Experience	3-7 Years	6	60
	>7 Years	4	40
Educational Background	Junior High School – Senior High School	8	80
	University	2	20
Position	Field workers	7	70
	Foreman	1	10
	Contractor 1	1	10
	Occupational Health and Safety (Field)	1	10

The study showed that the implementation of Occupational Health and Safety (OHS) at the UPT Resor Jalan Rel 8.10 Sidotopo project involved the roles of foremen, contractors, OHS experts, and workers. Foremen routinely supervise, but workers' awareness of personal protective equipment (PPE) remained limited due to comfort factors. Contractors provide OHS facilities, but these were constrained by budget and time. OHS experts conducted inspections and training, yet the pressure of work targets causes procedural violations. Generally, workers complyed with PPE usage, although consistency was affected by physical conditions and supervision. In conclusion, OHS effectiveness depended on leadership, facilities, worker awareness, and coordination among parties. The following was a summary of the interview results with informants at UPT Resor Jalan Rel 8.10 Sidotopo:

Table 3. Summary of Interview Results

Main Theme	Short Description
OHS Supervision and Leadership	The active role of foremen, contractors, and OHS experts in supervising and directing OHS implementation in the field
Worker Awareness and Compliance	Variations in worker awareness and compliance levels regarding the use of PPE and OHS procedures
Physical Constraints and Work Environment	Physical discomfort factors, weather conditions, and facilities that influence the implementation of OHS
Occupational Health and Safety Training and Education	Implementation of routine training and K3 outreach as an effort to improve understanding and discipline
Challenges of OHS Implementation	Barriers such as time pressure, budget constraints, and workers' unpreparedness to comply with OHS regulations
OHS Support Facilities and Equipment	The availability of protective equipment, hygiene facilities, and management support are supporting factors

Construction safety planning, in accordance with Minister of Public Works and Housing Regulation (Permen PUPR) No. 10 of 2021, was a crucial stage in the implementation of Occupational Health and Safety (K3), which encompassed plan formulation, hazard identification, risk analysis (HIRARC), and safe work methods to prevent accidents from the outset. At the Gedung Baru UPT Resor Jalan Rel 8.10 Sidotopo project, K3 planning was conducted through daily safety briefings and Toolbox Meetings (TBM) to socialize safety policies, demonstrating a systematic effort in K3 implementation. However, there were deficiencies in formal documentation, specifically the absence of written HIRARC documents, which created the potential for inconsistencies in risk control. In conclusion, although the practical execution of K3 was adequate, full compliance with the new regulations had not yet been achieved if formal documentation is compiled systematically.

The implementation of the Occupational Health and Safety Management System (SMKK) in accordance with PUPR Ministerial Regulation No. 10/2021 was supported by organizational structure and leadership, with supervisors actively reminding workers to use PPE. However, there were still issues of worker non-compliance with SOPs despite sanctions, indicating that leadership is not yet fully effective. In conclusion, the OHS organization and leadership were working, but discipline and management commitment are needed to optimize safety.

This project had implemented occupational health and safety (K3) training, outreach, and worker participation in accordance with PUPR Ministerial Regulation No. 10/2021 through formal training, Toolbox Meetings, and daily briefings. However, workers' non-compliance with SOPs remained a challenge, making the training ineffective. Additional strategies such as rewards, consistent sanctions, and worker involvement were needed to truly establish a safety culture.

The project had provided PPE in accordance with PUPR Ministerial Regulation No. 10/2021 and Law No. 1/1970, and replaced inadequate work equipment such as scaffolding. However, worker compliance, particularly regarding helmet used, remained low. OHS effectiveness needed to be improved through formal supervision, better outreach, provision of comfortable PPE, and the implementation of rewards and punishments to truly establish a safety culture.

The construction project at the Sidotopo Technical Implementation Unit (UPT) has partially met the requirements for controlling high-risk work as stipulated in PUPR Ministerial Regulation No. 10 of 2021, such as having standard operating procedures (SOPs), using special personal protective equipment (PPE), and replacing damaged scaffolding. However, worker compliance remained low, and a formal permit-to-work mechanism had not been implemented. Supervision still relied on verbal instructions, thus maintaining a high risk of accidents. A stronger culture of discipline was needed, as well as stricter implementation of work permits and supervision.

In terms of emergency preparedness and response, the project had provided comprehensive first aid (P3K) facilities and conducts daily site safety checks. However, there was no evidence of regular evacuation drills or emergency response simulations, and no officially trained emergency response team had been appointed. This situation meant that worker preparedness for emergencies remains limited to theory and potentially ineffective when a real situation occurs. Therefore, project management needs to develop written emergency procedures, appoint and train an emergency response team, and conduct regular evacuation simulations to familiarize all workers with emergency situations.

In terms of reporting, recording, and evaluation, the project had conducted oversight through communication and direct reprimands to workers who violate safety regulations. However, formal recording in the form of incident reports, OHS logbooks, and periodic evaluations based on actual data had not been implemented. This lack of documentation made the OHS evaluation process difficult to conduct systematically and hinders continuous improvement. In accordance with applicable regulations, accident reporting to relevant agencies had also not been optimally implemented. Therefore, the project needed to develop a formal documentation and evaluation system so that management has valid data to significantly improve occupational safety.

The implementation of OHS on projects was influenced by leadership, facilities, training, and schedule and budget pressures. Strong leadership and practical training foster discipline, while inadequate facilities and time pressures lead to disregard for regulations. Worker compliance was also affected by a safety culture and inadequate communication. Therefore, strengthening training, leadership, risk management, and a participatory safety culture was crucial to minimizing accidents.

IV. Conclusion

Based on the results of a study on the Analysis of the Compliance of Occupational Safety and Health (K3) Implementation with PUPR Ministerial Regulation No. 10 of 2021 on the Building Construction Project at the Resort Technical Implementation Unit (UPT) of the East Java Public Works and Public Housing Agency (PUBLIC BINA MARGA), the following conclusions were reached:

1. Personal Protective Equipment (PPE). The project has provided standard PPE, such as helmets, safety shoes, gloves, and full body harnesses for work at heights. However, worker compliance with PPE use is inconsistent. Many workers still neglect to wear helmets or even remove PPE during work due to heat and discomfort. This situation indicates that the availability of PPE is not fully matched by worker awareness of its disciplined use.
2. Worker Awareness. Routine socialization and safety briefings are conducted before and after work begins, with the aim of improving worker understanding and compliance with K3 procedures. However, worker awareness of complying with regulations remains low. Some workers continue to violate SOPs despite repeated reminders from supervisors and the HSE team. This illustrates that a work safety culture has not been fully ingrained, so worker compliance still relies on direct supervision in the field.
3. Environment/Work Area. Efforts to control work environment conditions have been implemented, for example by replacing unsuitable scaffolding and conducting routine inspections. However, cramped site conditions, noise levels, and an unsuitable work area layout still hinder workers from consistently adhering to safety procedures. An uncomfortable work environment has the potential to reduce worker concentration and increase the likelihood of SOP violations.
4. Weather Factors. Weather conditions at the project site, especially during hot weather, have been shown to influence worker behavior. Some workers admitted to removing their helmets, gloves, or other PPE because they felt hot and uncomfortable. This external factor significantly reduces the consistency of OHS implementation, so it needs to be addressed by providing supporting facilities such as shaded rest areas, scheduling work hours, or using PPE made from more ergonomic materials.

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