

Legal Protection Regarding Personal Protective Equipment (PPE) Versus Protective Equipment for Forklift Operators as Gig-Workers in Construction Projects

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Abstract

It is assumed that if forklift operators in construction projects wear Personal Protective Equipment, then all hazards in the workplace can be countered and eliminated. According to the hazard control hierarchy theory, there are stages that must be taken before using Personal Protective Equipment (PPE). The novelty of this research is the discussion of PPE, protective equipment, and safety equipment which are available for forklift operators in construction projects as gig-workers based on Ministerial Regulation No. 8 of 2020. The purpose of this research is to discuss legal protection related to PPE compared to Protective Equipment for forklift operators. The qualitative research methods uses a descriptive positive legal analysis which is based on in-depth interviews with forklift operators. So, it is not only PPE that is used by forklift operators when working on construction projects, but also Safety Equipment and Protective Equipment that are permanently attached to the forklift can function properly. The function of Safety Equipment and Protective Equipment that are sometimes underestimated by forklift operators. Occupational Safety and Health Culture is an important behavior for Gig-Workers such as Forklift Operators which aim not only to prevent work accidents happened but also to ensure peace of mind at work.

Keywords: gig-worker, forklift operator, Personal Protective Equipment (PPE), Protective Equipment, law

1. Introduction

Gig workers are individuals who work independently. They usually work on short-term projects or specific tasks without a long-term employment contract with a single employer. An example of a gig worker is an aircraft operator or transport aircraft operator in a construction project which will be discussed further in this study. The work system in the construction sector is not bound by long-term contracts. After the building is completely built, the operator's employment period will also end. The operators are part of the task-based gig economy. The workers in the construction sector are usually

have at high risk of workplace accidents. Therefore, it is necessary to implement a culture of occupational safety and health at work in order to prevent workplace accidents.

Both occupational Safety and Health are integral parts of the employment system and human resources. They are not only important in improving the level of social security and welfare of workers, but also have an impact on the productivity of a project. Besides, they are currently not only an obligation that must be observed and maintained by workers on construction projects, but also must be fulfilled by a work system and a requirement for every worker (Ramadhan, G. A., 2018).

Currently, companies which are operating in the construction sector have been using sophisticated equipment and machinery. This is intended to facilitate construction projects. Besides, it also has other impacts such as an increase in the number and variety of hazards for users of the technology or machinery. Working environments that do not meet occupational safety and health requirements, unsafe work processes, and increasingly complex and modern work systems can pose serious threats to workers (Yuliani, I., Amalia, R., 2019). Previous studies have found that there was a significant relationship between age, length of work, knowledge, and attitudes toward the use of personal protective equipment among paramedics. The paramedics should provide information, education, training, or workshops on the proper and correct use of personal protective equipment in accordance with existing procedures and regulations to improve knowledge and work attitudes. It is also necessary to provide complete PPE in accordance with the work procedures of each installation to prevent the transmission of diseases or categories of occupational diseases (Apriluana, G., Khairiyati, L., Setyaningrum R., 2016).

This study is almost similar to the previous studies conducted, but this recent study focuses on Gig-workers namely forklift operators who are a part of transport aircraft that need to implement Occupational Safety and Health while working. There are two aspects of implementing of occupational safety and health culture that are being compared such as the use of Personal Protective Equipment and Safety Equipment which are included in the Occupational Safety and Health requirements. An effort has made to minimize the level of danger and maximize operator performance in operating forklifts. It also creates a condition where an operator is not endangering other operators and be aware of the potential dangers that may occur around the operator as well as understanding the prevention and mitigation measures.

A forklift is a tool that allows a person to lift and place heavy and large loads. However, there is a risk of injury or death if its operator is not trained well to operate it (Hardiyono, Paisal, A., Ramdan, M., 2025). This research is important because the number of workplace accidents remains recently high. The main priority in dealing with workplace accidents is people who behave unsafely (Yuliani, I. & Amalia, R., 2019). Sometimes, forklift operators working in the construction sector do not wear personal protective equipment and do not use the safety devices installed on forklifts.

Forklifts are a type of transport vehicle which are used in loading activities in the construction sector. Based on initial observations, researchers found that some forklift operators did not appear to use a personal protective equipment such as gloves which the raw materials transported using forklifts could contaminate their hands. A forklift is a tool that allows a person to lift and place heavy and large

loads. Operating a forklift that does not comply with Standard Operating Procedures (SOP) risks causing workplace accidents. This study aims to determine the relationship between occupational safety knowledge and the level of SOP compliance among forklift operators. The operation of forklifts can cause fatal workplace accidents. Every day, forklift operators in the construction sector can be classified as gig workers, operate forklifts in their production activities. Therefore, hazard identification and risk assessment are necessary to prevent workplace accidents (Hardiyono, Paisal, A., Ramdan, M., 2025).

The use of personal protective equipment is often considered unimportant or trivial by forklift operators in the construction sector. However, the use of the personal protective equipment is very important and affects the safety and health of workers themselves. The availability of personal protective equipment, the enforcement of regulations on the use of personal protective equipment, and the supervision of personal protective equipment are not related to the behavior of using the personal protective equipment. However, it should be noted that the availability of Personal Protective Equipment becomes a company obligation that must be fulfilled to protect workers from existing hazards. This is also followed by the implementation of regulations which are concerning on Occupational Safety and Health requirements (Yuliani, I. & Amalia, R., 2019).

Some efforts conducted to implement Occupational Safety and Health programs and prevent accidents and occupational diseases are usually carried out through measures that can control hazards which commonly known as the hierarchy of risk control. Every activity which is involving humans, machines, and materials that go through the production process has different levels of risk that can lead to accidents and occupational diseases. The risk of accidents and occupational diseases is caused by the presence of hazards resulting from work activities in the workplace (Yuliani, I. & Amalia, R., 2019). Workers' discipline in using personal protective equipment is still low. So, the risk of work accidents that can endanger the workers is quite high (Suma'mur P. K., 2013). Because of the high number of work accidents, risk control measures must be implemented in the form of elimination, substitution, technical, administrative, and the use of personal protective equipment. A great number of efforts have been conducted to prevent workplace accidents and protect some workers through the use of PPE, but they who do not comply with PPE use are still often found (Putri, K. D. S. & Denny A.W. Y., 2014).

2. Research Method

The research method used in this study is a qualitative research method. It describes a positive law analysis based on in-depth interviews with forklift operators working in the construction sector. Thus, not only the Personal Protective Equipment used by forklift operators when working on construction projects, but also the Safety Equipment and Personal Protective Equipment permanently installed on forklifts can function properly. The informants interviewed were forklift operators who were classified as Gig-workers and occupational safety and health management personnel.

3. Results and Discussion

The high number of accidents caused by crane operators due to errors in loading goods are commonly caused by some factors such as age, length of work, training, and education (Annisya A. M., 2016). This reveals that in order to create a culture of safety, there are three interrelated components that must be achieved namely people, behavior, and environment which are referred to as the safety triad. The person component consists of several factors namely knowledge, ability, skills, intelligence, motivation, and personality of the workforce. Some factors in the behavior component include approval, training, awareness, communication, and active concern. While some factors related to the the environment component include equipment and supplies, machinery, household items, temperature, techniques, standards, and operating procedures. According to the safety triad theory, compliance is one of the factors in the behavior component that is influenced by the interaction of factors in the person and environment components (Geller & Scott, E., 2001).

Indonesia has an Occupational Safety and Health policy based on legislation. The main provision of the Law is No. 1 of 1970 concerning on Occupational Safety. Meanwhile, the regulation requiring forklift operators must have Occupational Safety and Health competencies is stipulated in Article 1 paragraph (16) of Regulation of the Minister of Manpower of the Republic of Indonesia No. 8 of 2020 concerning on Occupational Safety and Health for Lifting and Transporting Equipment which states that *“Operators are workers who have the ability and special skills in operating Lifting and Transporting Equipment”*.

Some construction companies that hire Gig-workers as operators do not always have licenses or competency certificates. Interviews conducted with some operators revealed that sometimes this is based solely on the needs of the company. However, a forklift operator license is sometimes required only for the administrative requirements of a project. The regulations state that *“Only trained and certified workers are allowed to operate forklifts and must be certified for the class of forklift being operated.”*

Some operators must be trained well according to the type of transport aircraft used and be certified and trained too. Not only any operators must be regulated by law, but transport aircraft in the form of forklifts must also be inspected and tested as being evidenced by the completeness of the certificate of compliance with Occupational Safety and Health requirements. The reality encountered in the field is that some construction companies continue to violate any regulations. Some operators have stated that *“we are forced to use or operate forklifts that are not in proper condition.”* This is certainly not in line with the objectives of the Occupational Safety and Health culture. Non-compliance with regulations can lead to workplace accidents.

3.1. Personal Protective Equipment

There are many factors that cause any workers do not comply with the use of Personal Protective Equipment even though the company has provided Personal Protective Equipment and implemented regulations that require them to use the Equipment. This means that there is still a need for further research related to some factors that may cause workers to comply with the use of Personal Protective

Equipment. The risk of occupational accidents and illnesses may occur due to work means that the companies are not enough to simply provide personal protective equipment and impose obligations on workers (Putri, K. D. S. & Denny, A.W. Y., 2014).

Hazards happened during operation include falling materials, operators being struck by parts of the forklift, forklifts hitting workers, imperfect rigging causing materials to fall, operators being exposed to the heat of the sun, dust in the work area getting into operators' eyes, and materials being stacked too high and falling, workers' hands getting caught while wedging pallets, workers being hit when forklifts push materials with iron, parked forklifts hitting materials, not applying the handbrake, forklifts hitting workers or materials, keys not being removed, forklifts being driven by other workers without the operator's permission (Khasanah, E. M. I., & Nawawinetu, E. D., 2018).

Personal protective equipment is a set of tools used by workers to protect all or part of the body from potential occupational hazards in the workplace (Yuliani, I., Amalia, R., 2019). The use of personal protective equipment is actually the last resort in risk control after elimination, substitution, engineering controls, and administrative controls which have failed. Many companies prefer to use the last option which is to recommend the use of Personal Protective Equipment as an early protection measure against accidents and occupational diseases that arise in the workplace. The proper use of Personal Protective Equipment not only can protect workers from the severity of work accidents and but also can support employee performance. Therefore, it hopefully increases the productivity of both employees and the company. Some examples of personal protective equipment include gloves, foot and eye protection, protective hearing devices (earplugs, earmuffs), hard hats, respirators, and full body suits. So, the use of the personal protective equipment should be mandatory, but any workers still do not use it. This is due to the weak discipline and awareness of workers (Yuliani, I. & Amalia, R., 2019).

Some factors that support the proper use of Personal Protective Equipment include: The availability of adequate Personal Protective Equipment that is suitable for the needs, regular training and education regarding the importance of Personal Protective Equipment. Strict supervision conducted by management regarding the use of PPE in the workplace and worker motivation to use it is merely influenced by risk awareness, PPE comfort, and support from the work environment (Hardiyono, Paisal, A., Ramdan, M., 2025). The obligation to wear Personal Protective Equipment can be enforced through SOP that must be followed by forklift operators in the construction sector. Based on the operator statements obtained that *“Before I work, I must wear complete Personal Protective Equipment and then I check the equipment, check the lubricants, and warm up the engine for a few minutes.”*

3.2. Safety Equipment

Some efforts are really needed to increase knowledge about occupational safety, Occupational Safety and Health regulations, and the dissemination of standard operating procedures which help workers improve their skills through training. By increasing the number of safety signs in the work environment are expected to prevent work accidents. While improving the workers' knowledge about

occupational safety can help increase their compliance with the SOP and the need for increased supervision and training for workers (Narulita, S., & Nugroho, D. A., 2019).

Standard Operating Procedures (SOP) are guidelines or references for carrying out tasks and work in accordance with the functions of the job. By implementing the SOP in place, all activities within a company can be well planned and run according to the company's wishes. The SOP can be defined as documents that describe daily operational activities which aims of ensuring that the work is carried out correctly, accurately, and consistently. Besides, it also aims to produce products in accordance with predetermined standards (Gabriele, 2018). Policies are guidelines for implementing certain actions based on strategies for achieving goals and objectives. In accordance with Law No. 1 of 1970 concerning on Occupational Safety, every worker has the right to get protection for their safety in carrying out their work for the sake of welfare and to increase production and productivity. One of the efforts to protect workers from occupational accidents is by implementing standard operating procedures (SOP) (Herlina, Y. & Asih, W. M., 2023). The standard operating procedures for forklifts at the proper and correct operating stage are contained in the Forklift Safety Quickcard (2019) in OSHA 3949 - 2019. The operating stages in accordance with OSHA's Safe Operation of Forklifts (2019) aim to better ensure the use of forklift transport equipment in safe and proper conditions to avoid various risks involved in operating forklifts. The operating forklifts must always be in accordance with factory instructions, the use of safety belts for operators, pallet positioning, safe working areas, and maximum load capacity (Herlina, Y. & Asih, W. M., 2023). The operator said, *"Here, every morning before starting work, we need to check the condition of the forklift. We need to check that the wheels, axles, brakes, headlights, and alarm lights are in good condition. Then we check the lubricants and fuel. After that, we check that the bolts and blades are in good condition."*

Another safety device is the use of a safety belt which is designed to better support the operator's body. The safety belt supports the upper body (chest) and upper body (thighs). However, with two parts supporting the operator's body, the operator's movement becomes more limited (Yogasara, T., Siswanto, D., Panghegar, R., 2004). The operator stated that *"Yes, sometimes I use a safety belt, but any safety belts are not used routinely."*

Another important safety device used by Gig-Workers that is permanently installed on forklifts is *"The use of horns at intersections and obstructed areas and turn signals are used to turn on the forklift's turn signals."* The turn signals are activated by a lever that is similar to the shape of the gear lever, but much smaller. It functions in two directions, forward and reverse. If the lever is moved forward, the left turn signal lights up. If it is moved backward, the right turn signal lights up. This lever does not have a display or feedback to clarify the direction of movement and function of the lever (Yogasara, T., Siswanto, D., Panghegar, R., 2004). The hand brake lever is used to hold the forklift in place when it is maintaining its position (at a standstill) so that the forklift remains where it is desired. Shaped like a straight bar, without any specific surface shape, it still allows for ulnar and radial deviation. The current condition of the lever when being used repeatedly will certainly cause discomfort to the operator's wrist which will further result in RSI (Repetition Strain Injury) to the right hand of the forklift operator. The operator needs to see the conditions behind the forklift body. The

mirrors are located on the left and right sides of the forklift mast (Yogasara, T., Siswanto, D., Panghegar, R., 2004).

Some companies need to implement stricter policies by imposing zero-tolerance sanctions on workers who do not use personal protective equipment, and also denying them permission to be at work. Workers are only allowed to enter the production unit workplace if they are wearing complete and proper personal protective equipment in accordance with existing regulations (Putri, K. D. S. & Denny A.W. Y., 2014).

4. Conclusion and Recommendations

Highly or less motivated forklift operators especially as Gig-workers still have a high percentage of compliance in using personal protective equipment. Although their motivation to use personal protective equipment is an activator that shapes compliance behavior in using personal protective equipment. This motivation is not enough to influence compliance behavior in using personal protective equipment. Workers who have received training on personal protective equipment but do not comply with its use may not have taken the training seriously. The personnel component shows that most workers in the aluminum sulfate production unit have good knowledge of Personal Protective Equipment and are motivated to use it. The company should conduct special training on the use of Personal Protective Equipment outside of the production unit's regular briefing time. Supervisors should pay more attention to workers' behavior in using the Personal Protective Equipment.

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