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MINOR FACTORS IN WORK ELEMENTS OF SMK3 IMPLEMENTATION OF PCI GIRDER ERECTION WORK BASED ON PP NO 50 OF 2012

(Case Study: Construction of the Probolinggo – Banyuwangi Toll Road Package 1 STA -3+881 – STA 09+00 on a 40.8m Span Bridge)

Djoko Prasetyo[1*], Wateno Oetomo[2], Sajiyo[3]
[1,2,3]Civil Engineering, 17 August 1945 Surabaya University, Indonesia

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Corresponding author*:
Prastyan78@gmail.com

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Abstract: Proving that the implementation of the Occupational Safety and Health Management System (SMK3) can be a reference that regulates various activities therein, as well as managing K3 systematically and comprehensively in a complete management system as an effort to prevent work accidents. The SMK3 assessment on the Probolinggo Banyuwangi Toll Road Development Project Package 1 aims to find out how much level of SMK3 implementation is being implemented, what factors influence the fulfillment of SMK3 implementation and then provide a response as an effort to take corrective action/improvement. Based on the results of the audit and analysis consisting of 166 criteria (Advanced Level) assessment as stated in Government Regulation No. 50 of 2012 concerning SMK3, it is known that the number of criteria fulfilled/appropriate is 149 criteria with an application percentage value of 89.76% and there are 17 The criteria are not met/not appropriate, namely with a percentage value of 10.24% (Minor Category). These results are included in the implementation assessment level category (Satisfactory). The implementation of SMK3 in the Probolinggo Banyuwangi Package 1 Toll Road Construction project is in accordance with and refers to applicable laws and regulations.
Keywords: Analysis, Implementation of SMK3, Regulation

INTRODUCTION

Construction work is a field that has fluctuating work and tends to involve risks. The higher the level of complexity of a project, the greater the project risk that will occur. Project risk is a condition that exists on a project due to uncertainty regarding the chances of certain events which, if they occur, will have physical and financial consequences. These consequences are unfavorable for the project, because they will hinder and hinder the achievement of project targets, namely cost, time and project quality. These risks can have an impact on productivity, performance, quality and costs of a project.

Risks may occur unexpectedly. Even though an activity has been planned as well as possible, it still contains uncertainty that it will go completely according to plan. The risk of a construction project not being able to occur will have an impact on disrupting overall project performance, which can result in losses in costs and time. Construction industry players are now increasingly aware of the importance of paying attention to risk issues in the projects they handle, because errors in predicting and handling risks will have negative impacts, both directly and indirectly, on construction projects.[1] Minister of Public Works Regulation No. 05/PRT/M/2014 actually regulates Construction K3 Risk Level Assessment, Hazard Identification, Risk Assessment, Priority Scale, K3 Risk Control and Persons Responsible for construction projects.

Therefore, to prevent undesirable things from happening, it is necessary to evaluate the implementation of the project's Occupational Health and Safety Management System (SMK3) on the installation of Erection PCI Girder using a Crawler Crane with a span of 40.8 meters on the construction of the Probolinggo Banyuwangi Toll Road. With the existence of SMK3, workers are expected to be able to carry out their work safely and healthily and increase workers' awareness of occupational safety and health (K3).

Problem Formulation

Based on the background that has been described, the problem can be formulated as follows:

1. How big is the application of SMK3 in the installation of Erection PCI Girder using a Crawler Crane based on PP number 50 of 2012?
2. What factors are not fulfilled (minor) in implementing SMK3 based on PP number 50 of 2012?
3. What are the efforts to improve the factors that are not met (Minor)?

Research purposes

1. To find out how much SMK3 is applied in installing Erection PCI Girder using a Crawler Crane based on PP number 50 of 2012?
2. To find out what factors are not fulfilled in implementing SMK3 based on PP number 50 of 2012
3. To analyze non-conformance of work elements according to PP number 50 of 2012
4. Efforts Efforts are made to correct non-conformities in Work Elements according to PP number 50 of 2012

Library Review

Implementation and Evaluation of K3 workers by doing Inspection, testing and measurement procedures must be established and maintained in accordance with K3 goals and objectives and the frequency adjusted to the object referring to applicable regulations and standards

General inspection, testing and measurement procedures include:

1. the personnel involved must have sufficient experience and expertise;
2. records of ongoing inspections, tests and measurements must be maintained and made available to management, labor and work contractors concerned;
3. adequate equipment and testing methods must be used to ensure compliance with K3 standards;
4. Corrective action must be taken immediately when a non-compliance with K3 requirements is found from the results of inspections, tests and measurements;
1. It is. adequate investigations must be carried out to find the cause of an incident; And
5. the findings must be analyzed and reviewed.

Goals of SMK3

According to [2] PP No.50 of 2012, the implementation of the K3 Management System aims to:

Increasing the effectiveness of planned, measurable, structured and integrated occupational safety and health protection as well as preventing and reducing work accidents and occupational diseases by involving elements of management, workers/laborers, and/or trade/labor unions so as to create a safe and comfortable workplace. , and efficient to encourage productivity

RESEARCH METHOD

This research method is a framework for a mindset approach in order to organize and carry out a process of research activities which aims to direct the process/pattern of thinking to answer the problems being researched further. K3 Management System by focusing on the subject, location and time of research.

This research activity will be carried out regularly, in a systematic phasing form, in the form of:

1. Collecting basic data for research carried out in the field using existing literature/library studies as initial support.
2. This study can be carried out through analysis of data obtained from surveys/field observations.
3. The data that has been obtained in the field is then processed based on a formulation that will be used which comes from library/literature studies for further data analysis.
4. The results of the data analysis will be used as a basis for drawing conclusions and so that suggestions will emerge from the research carried out

Audit checklist for implementing SMK3 in accordance with government regulation No. 50 of 2012

Table 1. SMK3 Implementation Audit Checklist Format

No	SMK3 Audit Criteria Elements and Sub Elements	Fulfillment/Related Documents	Mark Fulfillment			Findings		
			0	50	100	S	TS	
							Mn	Mj
1	**Building and Maintaining Commitment**							
1,1	K3 Policy							
1.1.1	There is a written K3 policy with a date, signed by the manager or manager, clearly stating K3 goals and objectives and commitment to improving K3	The company makes a written K3 policy, dated and the contents include the objectives and statement of the Company's commitment regarding the implementation of K3 at the workplace.						
1.1.2	Policies are prepared by entrepreneurs and/or management mlauli peross konsultsi dengn wakil tnaga keja	The consultation process can take the form of a meeting to discuss the formulation The contents of the policy can be attended by members of P2K3 (representatives of labor)/representatives of departments and or trade unions.						
1.1.3	The company communicates K3 policies to all employees, guests, contractors, customers and suppliers in an appropriate manner.	This form of K3 policy communication can be through; affixing, reading during the morning briefing, physitor identification cards, lanterns in contracts, briefing materials for guests, notice boards at the entrance, induction training, etc.						
1.1.4	Special policies are created for specific K3 issues	Special K3 policies are made in accordance with the company's risk level conditions or are related to cross-department (not mandatory), for example policies regarding the use of explosives, radiation, alcohol & drugs, etc.						

A = Early (Small)
T = Transition (Currently)
L = Large Continuation (Big)
Mj = Major
IN = Appropriate (S)
X = Not suitable (TS)
Mn = Minor

RESULT AND DISCUSSION

Analysis results

The results and analysis are obtained after carrying out an audit based on questions/assessments in the form of a check list (found in L-2) which refers to the requirements for compliance with an assessment using a predetermined calculation formula, so that the percentage value of the level of implementation of the Safety Management System can be determined. and Occupational Health (SMK3) on the Probolinggo Banyuwangi Toll Road Construction project Package 1 sta-3+881 sta 09+000. The following is a description of the assessment and percentage of fulfillment of requirements consisting of each of the 12 Audit Criteria Elements, namely a total of 166 Sub-Criteria Elements which can be seen in the Table and Graph as follows:

Table 1 Assessment of the Implementation of SMK3 Audit Criteria Elements. The following is a description mapping table based on the results of analysis, assessment and Audit findings on 12 Criteria Elements consisting of 166 Criteria Sub-Elements (Advanced Level), including:

Table 2. Mapping Description of Criteria for SMK3 Audit Results

No.	Elements	Criteria		
		Fulfilled	Not fulfilled Mn	Mj
1.	Development and Maintenance of Comments	1,1,1. 1,1,2. 1,1,3. 1,1,4. 1,1,5. 1,2,1. 1,2,2. 1,2,3. 1,2,4. 1.2.5. 1,2,6. 1,2,7. 1,3,1. 1,3,2. 1,3,3. 1.4.1, 1.4.3, 1,4,4. 1,4,5. 1.4,6, 1.4.7, 1,4,8. 1.4.9,1,4,10. 1,4,11.	1,4,2.	-
2.	Creation and documentation of K3 plans	2,1,1. 2,1,2. 2,1,3. 1,1,4. 2,1,5. 2,1,6. 2,2,1. 2,3,1. 2,3,2. 2,3,3. 2,3,4. 2,4,1.	2,2,2. 2,2,3.	-
3.	Control of contract design and review	3,1,1. 3,1,2. 3,1,3. 3,1,4. 3,2,1. 3,2,2.3,2,3, 3,2,4.		-
4.	Document Control	4.1.1, 4.1.2, 4.1.3,4.2.2, 4.2.3,	4,1,4. 4,2,1,	-
5.	Purchase	5,1,1. 5,1,2. 5,1,3. 5,1,4. 5,1,5. 5,2,1. 5,3,1.5,4,1. 5,4,2.		-
6.	Work Security Based on SMK3	6,1,1. 6,1,2. 6,1,3. 6,1,4. 6,1,5. 6,1,6. 6,1,7. 6,1,8. 6,2,1. 6,2,2, 6,2,3. 6,2,4. 6,2,5. 6,3,1. 6,3,2. 6,4,1. 6,4,2. 6,4,3. 6,4,4. 6,5,1. 6,5,2.6,5,3. 6,5,4. 6,5,5. 6,5,6. 6,5,7. 6,5,9. 6,5,10. 6,6,1. 6,6,2. 6,7,1. 6,7,2. 6,7,3. 6,7,4. 6,7,5. 6,7,6. 6,7,7. 6,8,1. 6,8,2	6,5,8.	-
7.	Monitoring Standards	7,1,1. 7,1,2. 7,1,3. 7,1,5. 7,1,6. 7,1,7. 7,2,1. 7,3,1. 7,3,2. 7,4,1. 7,4,2. 7,4,3. 7,4,4. 7,4,5.	7,1,4. 7,2,2. 7,2,3.	-
8.	Reporting and Correction	8,1,1. 8,2,1. 8,3,2. 8,3,3. 8,3,4. 8,3,5. 8,3,6. 8,4,1	8,3,1.	-
9.	Material Management and The move	9,1,1. 9,1,2. 9,1,3. 9.1.4, 9,2,1. 9,2,3. 9,3,3. 9,3,4. 9,3,5	9,2,2. 9,3,1. 9,3,2.	-
10.	Collector and Use of Services	10,1,1.10,1,2. 10,1,3. 10,1,4. 10,2,1.	10,2,2.	-
11.	Audit SMK3	11,1,1. 11,1,2. 11,1,3.		-
12.	Development Skills and Capability	12,1,1. 12,1,2. 12,1,3. 12,1,4. 12,1,5. 12,1,6. 12,2,1. 12,2,2. 12,3,1. 12,4,1. 12,5,1.	12,1,7. 12,3,2. 12,3,3.	-
166 Criteria		**149**	**17**	**-**

From the findings in Table 3, it can be seen that the number of application criteria consists of 166 Sub-Elements of Audit Criteria, namely there are 149 criteria with appropriate/fulfilled application and 17 criteria with inappropriate/unfulfilled application (Minor Category).

Discussion

Based on the results of the audit analysis and assessment carried out, it is known that the number of fulfillment of the implementation of the 12 Criteria Elements consisting of 166 Audit Criteria Sub-Elements, there are 149 Criteria fulfilled/appropriate and 17 Criteria not met/not appropriate (Minor Categories), these results are then used to determine the percentage value of fulfilling the level of achievement based on the provisions contained in PP Number 50 of 2012 concerning the Implementation of the Occupational Safety and Health Management System (SMK3) using the following calculation formula:

a. Conformity Level

Implementation Achievement Rate = (149/166) x 100% = 89.759 %

b. Level of nonconformity (Minor and Major)

Nonconformity rate = (17/166) x 100 % = 10.24 %

The results of the application assessment calculations above can be described as follows:

1. Audit Criteria : Advanced Level (166 Criteria)
2. Total Fulfilled : 149 Criteria
3. Not fulfilled : 17 Criteria
   - Minor : 17 Criteria
   - Major : - Criteria
4. Achievement : 89,76 %
5. Nonconformity : 10,24 %
6. Implementation Level : Satisfactory

The results of the implementation achievement level based on the provisions of statutory regulations in PP No. 50 of 2012 are the implementation achievement level (85-100%) including the implementation assessment level (Satisfactory), these provisions are as stated in the Table

The implementation of the Occupational Safety and Health Management System (SMK3) on the Probolinggo Banyuwangi Toll Road Construction project Package 1 sta-3+881 sta 09+000 is in accordance with the provisions and refers to the applicable laws and regulations, this is proven based on the results of the audit carried out namely by obtaining a percentage value of appropriate application of (89.76%) and findings of non-conformity with a percentage value of (10.24%), which is a finding included in the Minor Category.

Referring to the results of the assessment of the implementation and findings of the SMK3 Audit on the Probolinggo Banyuwangi Toll Road Development project Package 1 sta-3+881 sta 09+000 carried out by the company, the next step is to take response and improvement actions/improvements on the implementation of the SMK3 which is carried out as an effort Fulfillment of implementation in accordance with statutory regulations, making corrections, preventing work accidents, and to ensure safety for workers on construction projects being implemented, in detail these actions can be described in the table as follows:

Based on the results of the audit findings and analysis carried out, it can be identified several factors causing the incomplete implementation of the Occupational Safety and Health Management System (SMK3) on the Probolinggo - Banyuwangi Toll Road Development project Package 1 Sta. -3+881 – 09+000 including, the absence of specific documents and procedures for changes in the field which have implications for K3, including a lack of documentation and training for workers in efforts to prevent work accidents where there is inconsistency in fulfilling requirements and other references. Based on these findings, the next step is to obtain/carry out response actions, repairs/improvements, including by creating special procedures and formats related to changes in the field to make decisions that have implications for K3, carrying out documentation on the implementation of procedures with the new information system and providing refresher training for workers, where workers are faced with simulated emergency situations, as an effort to prevent work accidents and fulfill the implementation of the Occupational Safety and Health Management System (SMK3) in accordance with applicable laws and regulations.

CONCLUSION AND SUGGESTION

Conclusion

Based on the results of the analysis and audit system implemented, the following conclusions can be drawn:

1. The level of implementation of the Occupational Safety and Health Management System (SMK3) on the Probolinggo Banyuwangi Toll Road construction project Package 1 sta-3+881 sta 09+000 is the achievement of implementation (Satisfactory) with a percentage value of appropriate implementation of 89.76% and findings of non-conformance of 89.76%. 10.24% (Minor Category).

2. The factor causing incomplete implementation is the absence of procedural documents and specific formats for changes in the field which have implications for K3, including a lack of documentation and training for workers, where there is inconsistency in fulfilling requirements and other references.
3. Response and improvement actions that can be taken are by creating special procedures and formats related to changes that have implications for K3, documenting the implementation of procedures with new information systems and conducting refresher training for workers in an effort to prevent work accidents and fulfillment of SMK3 implementation in accordance with legal regulations

Suggestion

1. There is a need for a management review and update of existing SMK3 documents and procedures as an effort to fulfill requirements/regulations, this is because the factor causing non-fulfillment of implementation is inconsistency in fulfilling requirements and procedures and other references.
2. Internal audits must be carried out regularly by companies to ensure that the implementation of SMK3 is truly implemented by all levels within the organization and it is hoped that continuous improvements can be made.
3. The review carried out in this thesis is to determine the level of achievement of the implementation of SMK3 implemented in building construction projects by carrying out an Audit system, therefore it is recommended for future researchers to review the level of satisfaction and productivity of workers who have implemented the SMK3

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