

# The Influence of Safety Commitment, Implementation of SOP, Supervision and Competency on Work Accidents At PT. Haleyora Power Unit Service Pekanbaru

Maulana Yazid Al Annuri<sup>1</sup>, Mohammad Riza Sutjipto<sup>2</sup>, Muhammad Awaluddin<sup>3</sup>  
<sup>1,2,3</sup>Management, Faculty of Economic and Business, Telkom University

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## ABSTRACT

This research was conducted to determine the effect of Safety commitment, implementation of SOPs, supervision, and competence on work accidents at PT. Haleyora Power Unit Service Pekanbaru. The object of this research is technical service officers. This research is quantitative and descriptive. The data source in this research is primary data obtained by collecting answers from respondents through a questionnaire. The total number of respondents used was 263 employees. This research uses linear regression analysis with data processing using SPSS 26. The results of partial and simultaneous hypothesis testing show that the sig value is  $<0.05$ , which means that Safety commitment, application of SOPs, supervision, and competence influence work accidents. In the multiple value regression test, negative coefficient values were obtained for the three independent variables, which means that the higher the Safety commitment, implementation of SOPs, supervision, and competence, the smaller the number of work accidents that occur.

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## Corresponding Author:

Name: Maulana Yazid Al Annuri

Institution Address: Jl. Telecommunication. 1, Buahbatu Canal - Bojongsoang, Telkom University, Sukapura, Kec. Dayeuhkolot, Bandung Regency, West Java 40257

e-mail: [maulanayazid.al@gmail.com](mailto:maulanayazid.al@gmail.com)

## 1. INTRODUCTION

PT. Haleyora Power is a subsidiary of PT. PLN (Persero), which operates in the field of operation and maintenance of electric power transmission and distribution networks. PT. Haleyora Power is an outsourcing company from PLN, which is located in 104 cities in Indonesia. Haleyora Power Unit, Pekanbaru

Service has a contract with PT. PLN Main Distribution Unit (UID) Riau and Riau Islands to manage distribution engineering and maintenance services in the PT Work Area. PLN Persero Customer Service Implementation Unit (UP3) Pekanbaru This type of work on

mobile phones carries a high risk of electric shock from 220 volts to 20,000 kV and, of course, requires workers who have special competence in the field of electricity. The total workforce at PT Haleyora Power UL Pekanbaru is 458, including the technical services of 263 personnel.

In 2021, PT. Haleyora Power Implementing Unit 6 carried out the Initial Level SMK3 PP 50 of the 2012 External Audit and received an SMK3 certificate issued by the Minister of Manpower of the Republic of Indonesia with a score of 87.5% (satisfactory). It is hoped that the implementation of SMK3 and

also achieving satisfactory scores can realize the target of "zero accidents". However, the satisfactory audit results are in fact inversely proportional to the work accidents that have continued to occur in the last 5 years.

To measure work accidents, there are several methods that can be used. One of them is incident rate (IR). IR is the total number of accidents that occur divided by the total workforce, then multiplied by 100%. The following is the incident rate that occurred at the Pekanbaru HP Service Unit in the last 5 years

Tabel 1. Incident Rate

NO	YEAR	Target Incident Rate (IR)	Incident Rate (IR)
1	2018	0 %	1.97%
2	2019	0 %	1.53%
3	2020	0 %	1.75%
4	2021	0 %	1.53%
5	2022	0 %	2.40%

In an effort to minimize work accidents with various safety training with the company's hope of achieving the goal of "zero accidents", however, based on the information that the author obtained in 2022, there have been work accidents that have caused deaths. So HP UL Pekanbaru was penalized with 5% of the invoice value, namely IDR 243,816,076. Due to work accidents, the company also receives a Sanki reprimand, which will result in the termination of the work contract if there is no improvement.

Based on information from HR at HP UL Pekanbaru, the company has a Key Performance Indicator for Electricity Compliance and Environmental Management Aspects, where the formula for this indicator is the sum of the subtracted values for elements of electricity safety and environmental management compliance. The maximum deduction value for the KPI weight is minus 8. An accident in 2021 resulted in a reduction in the organizational performance value (NKO) of -2 (minus 2) so that the NKO, which was originally 98.74, became 96.74. An accident in

2022 will cause a reduction in the organizational performance value (NKO) of -3 (minus 3) so that the NKO, which was originally 92.90, becomes 89.90.

Of course, concrete strategies are needed to reduce the number of work accidents so that companies can continue to be sustainable. Strategic management, namely managerial efforts to develop the company's strengths to exploit emerging business opportunities in order to achieve the company's stated goals in accordance with the predetermined mission (Suwarsono, 1996),

Implementing safety is basically an investment that can help companies avoid high costs due to work accidents and injuries. In the long term, the costs incurred for implementing safety are much lower than the costs incurred to treat injuries or repair machine damage resulting from work accidents ("Cost-Benefit Analysis," Frank E. Bird Jr. (1971)).

According to Arini T. Seomohadiwidjojo (2015:90), Standard Operating Procedure (SOP), also known as "Procedure", is a clearer and more detailed document to describe the methods used to implement policies in an organization as stated in the guidelines.

According to Kadarisman in Jufrizen (2016), "supervision is an uninterrupted process to ensure that the implementation of duties, functions, and authority does not deviate from the rules that have been established in order to achieve organizational goals."

Based on the information that the author obtained, HP Pekanbaru has held an internal meeting between management, team leader safety, operations team leader, field coordinator, and field implementation officers in order to discuss a focus group discussion (FGD) using the 5 Whys method to find out the causes of work accidents in detail. The results obtained are:

- Lack of safety commitment.
- Not yet implemented SOP
- There is no strict supervision yet.
- No competence yet.

Based on the problems that occurred above, it can be concluded that the form of work accident prevention efforts carried out by PT. Haleyora Power Unit Pekanbaru Service is currently not producing maximum results. Based on the results of the FGD that the author obtained from the results of internal meetings, the author will conduct research at HP UL Pekanbaru by looking at whether safety commitment, implementation of SOPs, supervision, and competence really have an effect on the level of work accidents at HP Pekanbaru and what suggestions are made for future improvements.

## 2. LITERATURE REVIEW

This literature is useful as a reference source for previous research regarding the research variables of safety commitment, application of SOPs, supervision and competence

### 2.1 *First Literature*

The results of Diyas Widya Ningrum's research (2020) found that Commitment to Occupational Safety and Health had a negative effect on the level of work accidents among employees of Cv. Lancar Jaya Food. The results of this research are also consistent with research conducted by Triyanto et al (2020) which found that the Occupational Safety and Health Program (K3) which was carried out well by port users was able to improve the work safety of Jepara Class II Port ship crew.

Apart from that, the results of this research are also supported by the results of research conducted by Alfa Baetin (2020), whose research results found that work accidents can still be minimized by improving the K3 work program in the company. The K3 work program includes: improving the quality of PPE, increasing K3 discipline, applying substitution methods for tools that have the potential to cause danger.

### 2.2 *Second Literature*

The results of research conducted by Sukma Ayu (2019) show that the

implementation of SOPs is a factor related to work accidents where the results of the chi square test obtained a value of  $X^2 \text{ Count} = 17.694 > )$ , then the implementation of SOP is a risk factor for work accidents for employees at PT. PLN (Persero) Kendari Customer Service Implementation Unit. This means that employees who do not implement SOPs will be 6,020 times more likely to experience work accidents compared to employees who implement SOPs.

Apart from that, the results of this research are also in line with the results of previous research conducted by Putri, Suroto, & Wahyuni (2017) which stated that there was a significant relationship between SOP compliance and accidents. This shows that the more disobedient the respondents are, the higher the work accidents will be and vice versa, the more obedient the respondents are, the lower the work accidents will be.

Other research that also supports the results of this research is research conducted by Ningrum (2020) which suggests that there is an influence between the implementation of SOPs on the level of work accidents, where the higher the implementation of standard operational procedures, the more it reduces the level of work accidents among employees.

### 2.3 *Third Literature*

The results of research conducted by Triyanto et.,al (2020) state that there is a significant influence between supervision of work accidents on Jepara Class II Port ship crews, where effective supervision makes the implementation of the Occupational Safety and Health Program (K3) more effective. Apart from that, the results of this research are also in line with research conducted by Ashari in 2019 which showed that there was a relationship between supervision and work accidents, where work accidents occurred more frequently with poor supervision than good supervision. Research conducted by Gatra Wira Andika, (2018) also examined the influence of supervision, discipline and work environment on the occupational safety and health of employees at PT. Bumi Mulia Perkasa

Dumai also shows results that supervision has a significant and positive influence on occupational safety and health.

#### 2.4 Fourth Literature

The results of research conducted by Aisy Haikal (2022) found that there was a positive relationship between Occupational Safety and Health (K3) and the performance of PT employees. PLN (PERSERO) UIT JBB UPT Durikosambi. Apart from that, the results of this research are also in line with research conducted by Palapa A (2021) which stated that competency has a negative and significant effect on work accidents. Apart from that, research was conducted by Dwi Maulidina et.,al, (2021) in which his research was about the factors in implementing the K3 program that influence the performance of construction projects, where worker competency was one of the factors that was ranked highest.

### 3. METHODS

The type of research used in this study is quantitative descriptive analysis research. This research aims to measure and analyze the relationship between the variables involved in the research using an objective approach and measurable data. In this research, researchers will collect data about safety commitment, implementation of SOPs, supervision, competence, and work accidents at PT. Haleyora Power Unit Service Pekanbaru.

This research allows researchers to carry out statistical analysis of the data obtained to test hypotheses and see the relationship between these variables. Statistical regression analysis can be used to see the influence of independent variables (safety commitment, implementation of SOPs, supervision, competence) on the dependent variable (work accidents) by controlling other factors that might influence them.

Researchers used survey methods in their research and used questionnaires as data collection instruments. The collected data can then be analyzed using statistical techniques such as regression analysis and descriptive analysis.

In this research, a Likerts scale was used to measure a person's response or feedback regarding social objects. The answers to each instrument that uses a Likert scale have a gradation from very positive to very negative; each item is given a choice of responses (Suliyanto, 2018: 134).

There are variations in measurement scales that can be used in research regarding "The Effect of Safety Commitment, Implementation of SOPs, Supervision, and Competence on Work Accidents at PT. Haleyora Power Service Unit Pekanbaru". The scale chosen may depend on the researcher's preferences and the type of data.

they wish to collect. In this context, previous researchers have used a 5-point Likert scale to measure this variable.

According to Sugiyono (2016: 85), the saturated sample determination method, or total sampling, is a sample determination technique when all members of the population are used as samples. The samples taken for this research were all 263 technical service officers at the Haleyora Pekanbaru Service Unit. The reason for using the entire population as a sample is to obtain research results with high accuracy.

The method used for data collection is a questionnaire. This method involves the use of a questionnaire containing structured questions addressed to respondents, namely technical service officers at PT. Haleyora Power Unit Service Pekanbaru. Questionnaires can be sent online via email or an online survey platform (Google Form).

This research uses SPSS (Statistical Product and Service Solution) software version 26 to test the hypotheses that have been formulated. This study uses a quantitative approach. This analysis technique is used to explain the relationship and how much influence the independent variables, namely safety commitment, application of SOPs, supervision, and competence, have on the dependent variable, namely work accidents. To be able to carry out multiple linear regression analysis, data quality testing and classical

assumption testing are required, with the following steps:

### 3.1 Descriptive Statistics

According to Sugiyono (2015:74), the formula used to determine the respondent's level of achievement is as follows:

Average

score = (5.A) + (4.B) + (3.C) + (2.D) + (1.E)

A+B+C+D+E

Where:

A : totally agree

B : agree

C : neutral

D : disagree

E: strongly disagree

### 3.1 Research Instrument Test

#### 3.1.1 Validity Test

The validity test is intended to measure the extent to which the variables used actually measure what they are supposed to measure.

Validity testing in this research uses Pearson correlation, namely by calculating the correlation between the values obtained from the questions. If the Pearson correlation obtained has a significance value below 0.05 or sig. < 0.05, the data obtained is valid, and if the correlation between the score of each question item and the total score has a significance level above 0.05 or sig. > 0.05, then the data obtained is invalid (Ghozali, 2011).

#### 3.1.2 Reliability Test

Instrument reliability testing can be done by looking at Cronbach's alpha. A reliable instrument means that if it is used several times to measure the same object, it will produce the same data. A variable can be said to be reliable if it provides a Cronbach's alpha value > 0.70 (Ghozali, 2011). A reliable instrument is not necessarily valid, and a valid instrument is not necessarily reliable, so instrument reliability is a requirement for testing instrument validity (Sugiyono, 2011).

### 3.2 Classic Assumption Test

#### 3.2.1 Normality Test

The normality test aims to test whether, in the regression model, the confounding or residual variables have a normal distribution

(Ghozali, 2011). Normality testing can be carried out using the One Sample Kolmogorov-Smirnov Test, with a significance level of 0.05 or 5%. If the resulting significance is > 0.05, then the data distribution is said to be normal. Conversely, if the resulting significance is < 0.05, then the data is not normally distributed.

#### 3.2.2 Multicollinearity Test

According to Ghozali (2011), the multicollinearity test aims to test whether the regression model finds a correlation between the independent variables. A good regression model should have no correlation between independent variables. One way to detect whether there is multicollinearity in a regression model can be seen from the tolerance.

value and its opposite, the variance inflation factor (VIF).  $VIF = 1 / \text{tolerance}$ . A low tolerance value is the same as a high VIF value. If the VIF value is  $\leq 10$  and the tolerance value is  $\geq 0.10$ , it indicates that there is no multicollinearity in the study (Ghozali, 2011).

#### 3.2.3 Heteroscedasticity Test

The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from the residuals of one observation to another. If the variance from the residual from one observation to another is constant, it is called homoscedasticity, and if it is different, it is called heteroscedasticity. Thus, a good linear regression is a regression whose residual variance is homoscedastic (Ghozali, 2011).

### 3.3 Hypothesis Testing

#### 3.3.1 Multiple Linear Regression Test

To reveal the influence of the hypothesized variables in this research, regression model analysis was carried out. The multiple regression equation model is

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

Information :

Y: Work Accident

a : Constant

b : Coefficient

X1: Safety commitment

X2: Implementation of SOP

X3: supervision

X4: Competence

e : Error/error factor

### 3.3.2 Coefficient of Determination Test (Adjusted R<sup>2</sup>)

To get how much the independent variable can explain the dependent variable, you need to know the coefficient of determination (Adjusted R Square). If the Adjusted R Square is 1, it means that the fluctuations in the dependent variable can be entirely explained by the independent variable and there are no other factors that cause the dependent fluctuations. The Adjusted R Square value ranges from almost 1, meaning the stronger the ability of the independent variable to explain the dependent variable. On the other hand, if the Adjusted R Square value is closer to 0, it means that the independent variable's ability to explain fluctuations in the dependent variable is weaker (Ghozali, 2011).

### 3.3.3 Partial Test (t Test)

The t statistical test basically shows how far the influence of an explanatory/independent variable individually is in explaining variations in the dependent variable (Ghozali, 2011). With a significance level of 5%, the testing criteria are as follows:

If the significant value of  $t < 0.05$  then  $H_0$  is rejected, meaning that there is a significant influence between one independent variable on the dependent variable. If the significant value of  $t > 0.05$  then  $H_0$  is accepted, meaning that there is no significant influence between one independent variable on the dependent variable.

- $H_{O1}$  = Safety commitment has no significant effect on work accidents
- $H_{a1}$  : Safety commitment has a significant effect on work accidents
- $H_{O2}$  : SOP implementation does not have a significant effect on work accidents
- $H_{a2}$  : the implementation of SOPs has a significant effect on work accidents
- $H_{O3}$  = supervision has no significant effect on work accidents

- $H_{a3}$  : supervision has a significant effect on work accidents
- $H_{O4}$  = competency has no significant effect on work accidents
- $H_{a4}$  : competency has a significant effect on work accidents

### 3.3.4 Simultaneous Significance Test (F Test)

The model feasibility test is carried out to determine whether the regression model is suitable for use or not. This test uses the F statistic contained in the Anova table. The decision making steps are as follows

If the probability is smaller than the significance level ( $Sig < 0.05$ ) then the research model can be used or the model is feasible. If the probability is greater than the significance level ( $Sig > 0.05$ ) then the research model cannot be used or the model is not feasible.

- $H_{O5}$ : Safety commitment, implementation of SOPs, supervision and competence have no effect on work accidents
- $H_{a5}$ : Safety commitment, implementation of SOPs, supervision and competence influence work accidents

## 4. RESULTS AND DISCUSSION

The respondents in this study were 263 technical service officers. All respondents were male. Respondent characteristics were divided based on age, work experience and level of education.

The following is a table of the number of workers based on age

Table 4.1 Number of workers by age

No	Worker Age (Years)	Total manpower	Percentage
1	20-25	41	16%
2	26-30	73	28%
3	31-35	39	15%
4	36-40	43	16%
5	41-45	29	11%
6	46-50	27	10%
7	51-55	11	4%
Total		263	100%

Source: HP UL Pekanbaru HR data 2023

In the table, it can be seen that the most dominant age of workers is 26-30 years with a percentage of 28% or 73 out of 263 workers. Meanwhile, the age of at least 4% is in the 51-55 year range, 11 of the 263 workers. The following is the number of workers based on their work experience

Table 4. 2 Number of Workers based on Work Experience

No	Work Experience (Years)	Total manpower	Percentage
1	0-3	23	8.75%
2	3-6	101	38.40%
3	6-9	45	17.11%
4	9-12	55	20.91%
5	12-15	20	7.60%
6	>15	19	7.22%
Total		263	100%

Source: HP UL Pekanbaru HR data 2023

The table shows that the highest work experience of 3-6 years is 38.4% or 101 out of 263 workers. The lowest work experience was 8.75% or 23 out of 263 workers. The highest work experience is more than 15 years, there are 19 workers.

The following is the number of workers based on education level

Table 4 .3 Number of Workers by Education Level

No	Level of education	Total manpower	Percent age
1	SMA/SMK	234	88.97%

2	D1	3	1.14%
3	D3/S1	26	9.89%
Total		263	100%

Source: HP UL Pekanbaru HR data 2023

It can be seen that the dominant level of education is SMA/SMK with a total of 234 out of 263 workers (88.97%). Meanwhile D1 only has 3 workers. D3/S1 there are 26 workers or 9.89%.

#### 4.1 Descriptive Analysis Results

Based on the output results of descriptive statistical analysis obtained from table 4.4, the results of descriptive analysis of the variables of this research were obtained. First, the Work Accident variable (Y) has a mean value of 40.03, a minimum of 23, a maximum of 50, and a standard deviation of 4.784.

Second, the Safety commitment variable (X1) has a mean value of 39.71, a minimum value of 22, a maximum value of 50 and a standard deviation of 5.153. The three SOP Implementation variables (X2) have a mean value of 35.19, a minimum of 20, a maximum of 50, and a standard deviation of 4.778. The four Supervision variables (X3) have a mean value of 36.77, a minimum value of 19, a maximum value of 50, and a standard deviation of 5.002. Finally, the Competency variable (X4) has a mean value of 40.77, a minimum of 27, a maximum of 50, and a standard deviation of 5.550. It can be seen in table 3.4

Table 4.4 Descriptive Statistical Test Results

Descriptive Statistics							
	N	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistics	Statistics	Statistics	Statistics	Std. Error	Statistics	Statistics
Tot Y	263	23	50	40.03	0.295	4,784	22,889
Tot X1	263	22	50	39.71	0.318	5,153	26,556
Tot X2	263	20	50	35.19	0.295	4,778	22,829
Tot X3	263	19	50	36.77	0.308	5,002	25,019
Tot X4	263	27	50	40.77	0.342	5,550	30,805

Valid N (listwise)	263						
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4.2 Data Quality Test Results

4.2.1 Validity Test

If the calculation results for each variable produce  $r_{count} > r_{table}$  then it can be said that the data obtained is valid, and vice versa if  $r_{count} < r_{table}$  then the data obtained is invalid. We can find the value of  $r$  in the table from calculating the degree of freedom (df), namely with the formula for the number of samples minus 2 or  $(n - 2)$ .

The number of samples in this study was 263 respondents, so  $df = 263 - 2 = 261$ , with a significance level of 0.05, so based on the statistical table, the  $r_{table}$  in this study was 0.1210. The following is a summary of the validity test table for variables Y and X.

Table 4.5 tests the validity of work accident variables

Indicator Statement	r count	r table	Information
KK.1	0.533	0.1210	Valid
KK.2	0.723	0.1210	Valid
KK.3	0.717	0.1210	Valid
KK.4	0.599	0.1210	Valid
KK.5	0.636	0.1210	Valid
KK.6	0.621	0.1210	Valid
KK.7	0.694	0.1210	Valid
KK.8	0.716	0.1210	Valid
KK.9	0.680	0.1210	Valid
KK.10	0.691	0.1210	Valid

Table 4.6 tests the validity of the Safety commitment variable

Indicator Statement	r count	r table	Information
K3.1	0.614	0.1210	Valid
K3.2	0.718	0.1210	Valid
K3.3	0.438	0.1210	Valid
K3.4	0.529	0.1210	Valid
K3.5	0.658	0.1210	Valid
K3.6	0.726	0.1210	Valid
K3.7	0.687	0.1210	Valid
K3.8	0.700	0.1210	Valid

KK.9	0.688	0.1210	Valid
K3.10	0.712	0.1210	Valid

Table 4.7 tests the validity of the variable for applying the sop

Indicator Statement	r count	r table	Information
SOP.1	0.675	0.1210	Valid
SOP.2	0.767	0.1210	Valid
SOP.3	0.697	0.1210	Valid
SOP.4	0.731	0.1210	Valid
SOP.5	0.681	0.1210	Valid
SOP.6	0.574	0.1210	Valid
SOP.7	0.651	0.1210	Valid
SOP.8	0.555	0.1210	Valid
SOP.9	0.575	0.1210	Valid
SOP.10	0.541	0.1210	Valid

Table 4.8 Test of the validity of monitoring variables

Indicator Statement	r count	r table	Information
PWS.1	0.670	0.1210	Valid
PWS.2	0.696	0.1210	Valid
PWS.3	0.565	0.1210	Valid
PWS.4	0.792	0.1210	Valid
PWS.5	0.754	0.1210	Valid
PWS.6	0.613	0.1210	Valid
PWS.7	0.584	0.1210	Valid
PWS.8	0.621	0.1210	Valid
PWS.9	0.472	0.1210	Valid
PWS.10	0.497	0.1210	Valid

Table 4.9 competency variable validity test

Indicator Statement	r count	r table	Information
KP.1	0.616	0.1210	Valid
KP.2	0.678	0.1210	Valid
KP.3	0.791	0.1210	Valid
KP.4	0.781	0.1210	Valid



KP.5	0.795	0.1210	Valid
KP.6	0.780	0.1210	Valid
KP.7	0.795	0.1210	Valid
KP.8	0.825	0.1210	Valid
KP.9	0.760	0.1210	Valid
KP.10	0.693	0.1210	Valid

**4.2.2 Reliability Test**

Reliability testing is carried out to test the consistency of a questionnaire in measuring concepts. The reliability test in this research was carried out using Cronbach's Alpha. A questionnaire is said to be reliable if the Cronbach's Alpha value is  $\geq 0.60$ . The following is a summary of the results of the reliability test of the variables used in this research:

Table 4.10 Table of reliability test results

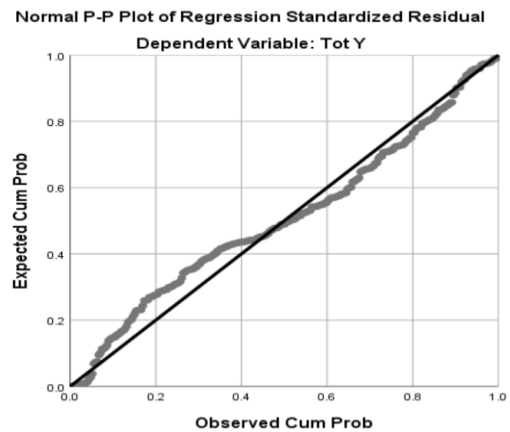
Variable	Cronbach's Alpha	Standard Reliability	Information
Work accident	0.853	0.600	Reliable
Safety commitment	0.843	0.600	Reliable
Implementation of SOPs	0.839	0.600	Reliable
Supervision	0.803	0.600	Reliable
Competence	0.913	0.600	Reliable

**4.3 Classic Assumption Test**

**4.3.1 Normality Test**

The normality test is a test carried out to test whether the research variables in the regression model are normally distributed or not. The normality test in this study was carried out based on the Probability Plot (P-Plot) distribution graph test by looking at the dots spread around the diagonal line and following the direction of the diagonal line, so the regression in the study can be said to be satisfactory. The assumption of normality or that the data is normally distributed.

Figure 4.1



**4.3.2 Multicollinearity Test**

The multicollinearity test aims to test whether in the regression model there is intercorrelation between the independent variables. Detection of multicollinearity in the regression model in this study was detected based on the Tolerance and Variant Inflation Factor (VIF) values. The regression model is declared free from multicollinearity if the Tolerance value is  $\geq 0.1$  and the VIF value is  $\leq 10$ . The results of the multicollinearity test in this study can be seen in table 4.11

Table 4.11 Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Tot X1	0.930	1,075
	Tot X2	0.970	1,031
	Tot X3	0.960	1,042
	Tot X4	0.962	1,039

**4.3.3 Heteroscedasticity Test**

The heteroscedasticity test aims to test whether in the regression model there is a difference between the variance or residuals from one observation to another. In this study, the heterodasticity test was carried out using the Spearman Rho test. This detection uses the significance level or sig. (2-tailed) of 0.05. If the significance value between the independent variable and the absolute residual is greater than 0.05 then there is no heteroscedasticity problem. On the other

hand, if the significance value between the independent variable and the absolute residual is smaller than 0.05, heteroscedasticity occurs.

Table 4.12 Heteroscedasticity Test Results

Model	Unstandardized
	Residual
Safety commitment	0.198
Implementation of SOPs	0.685
Supervision	0.367
Competence	0.797

**4.3 Hypothesis Testing**

**4.3.1 Multiple Linear Regression**

**Test**

Multiple linear analysis was carried out to test the influence of the independent variable on the dependent variable. This research tests the influence of Safety commitment, Implementation of SOPs, Supervision and Competence on Work Accidents.

Table 4.13 Multiple Linear Regression Analysis

Model		Unstandardized Coefficients	
		B	Std. Error
1	(Constant)	45,130	3,630
	Tot X1	-0.252	0.057
	Tot X2	-0.133	0.060
	Tot X3	-0.126	0.057
	Tot X4	-0.121	0.052

Based on the test results in table 4.13 above regarding the Effect of Safety commitment, Implementation of SOPs, Supervision and Competence on Work Accidents, the following equation can be prepared:

$$Y = 45.130 - 0.252X1 - 0.133X2 - 0.126X3 - 0.121X4 + e$$

The information from the regression equation above consists of:

- a. The constant value is 45.130 which indicates that if Safety commitment,

Implementation of SOPs, Supervision and Competence as independent variables in this research do not exist or have a value of 0 then Work Accidents as the dependent variable have a value of 45.130.

- b. The regression coefficient value of the independent variable Safety commitment (X1) is - 0.252, indicating that every increase of one unit or 1% in the Safety commitment variable (X1) will cause work accidents to decrease by 0.252 or 25.2%. The coefficient is negative, meaning that there is a negative relationship between Safety commitment and Work Accidents, the higher the Safety commitment, the lower the Work Accidents will be.
- c. The regression coefficient value of the independent variable SOP Implementation (X2) is -0.133, indicating that every one unit or 1% increase in the SOP Implementation variable (X2) will cause Work Accidents to decrease by 0.133 or 13.3%. The coefficient is negative, meaning that there is a negative relationship between the application of SOPs and work accidents. The higher the application of SOPs, the lower the work accidents will be.
- d. The regression coefficient value of the independent variable Supervision (X3) is -0.126, indicating that every increase of one unit or 1% in the Supervision variable (X3) will cause Work Accidents to decrease by 0.126 or 12.6%. The coefficient is negative, meaning that there is a negative relationship between Supervision and Work Accidents, the higher the Supervision, the lower the Work Accidents will be.
- e. The regression coefficient value of the independent variable Competence (X4) is -0.121, indicating that every one unit increase in the Competency variable (X4) will cause accidents to decrease by 0.121 or 12.1%. The coefficient is negative, meaning that there is a negative relationship between competence and work accidents, the more competence

increases, the more work accidents will decrease.

**4.3.2 Determinant Coefficient Test (R<sup>2</sup>)**

The determinant coefficient test (R-Square) aims to measure the percentage of influence exerted by the independent variable on the dependent variable in this study. The determinant coefficient is useful for knowing the percentage of influence of Safety commitment, Implementation of SOPs, Supervision and Competence on Work Accidents at PT. Haleyora Power Unit Service Pekanbaru.

Table 4.14 Determination Coefficient Test

Model Summary <sup>b</sup>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.327 <sup>a</sup>	0.107	0.093	4,556
a. Predictors: (Constant), Safety commitment, SOP Implementation, Supervision and Competency				
b. Dependent Variable: Work Accident				

Based on the table, it shows that the determinant coefficient (R<sup>2</sup>) is 0.093 or 9.3 %. This means that the percentage of influence of Safety commitment, Implementation of SOPs, Supervision and Competence on Work Accidents at PT. The Haleyora Power Unit Pekanbaru Service can only be explained by 9.3% in this research, while the remaining 90.7% is explained by other factors outside of this research.

**4.3.3 Regression Coefficient Test (t-test)**

The Regression Coefficient Test (t-test) aims to partially test the influence of independent variables in influencing the dependent variable. In the table below, the results of the t test in table 4.15 are as follows:

Table 4.15 T Test Results

Model	t	Sig.
1 (Constant)	12,433	<b>0,000</b>
Tot X1	-4,446	<b>0,000</b>
Tot X2	-2,222	<b>0,027</b>
Tot X3	-2,200	<b>0,029</b>

Tot X4	-2,338	<b>0.020</b>
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To test the Partial Regression Coefficient Test (t-Test), a comparison is carried out between the calculated t (absolute) and the t table. If the calculated t value is greater than the t table or the significance value is smaller than 0.05. then the multiple linear regression model has a significant influence. Calculation of the t table value can be done as follows:

$$t \text{ table} = t (a/2 ; nk-1) = t (0.025 ; (263 - 4 - 1)) = t (0.025 ; 258) = t (1.969)$$

Information :

a : 5%

n : number of samples

k : independent variable (X)

Based on table 4.16 above, it can be concluded as follows:

- 1) The Safety commitment variable has a t value (significance) of 0.000 < 0.05. These results show that Safety commitment has a significant influence on Work Accidents. Thus, the first hypothesis in this study is accepted.
  - 2) The SOP Implementation variable has a t value (significance) of 0.027 < 0.05. These results show that the implementation of SOPs has a significant influence on work accidents. Thus, the second hypothesis in this study is accepted.
  - 3) The Monitoring Variable has a t value (significance) of 0.029 < 0.05. These results show that supervision has a significant influence on work accidents. Thus, the third hypothesis in this study is accepted.
  - 4) The Competency variable has a t value (significance) of 0.020 < 0.05. These results show that Competency has a significant influence on Work Accidents. Thus, the fourth hypothesis in this study is accepted.
- a. Regression Coefficient Test (F-Test)
- b. The simultaneous regression coefficient test (F-test) is carried out to test whether the regression model used is significant or not, so that it can be ascertained whether the regression model can be used to

predict the influence of independent variables simultaneously (together) on the dependent variable.

Table 4.16 F Test Results

Model	F	Sig.
1 Regression	7,727	,000 <sup>b</sup>

To test the simultaneous regression coefficient test (F-Test), a comparison is carried out between calculated F and table F. If the calculated F value is greater than F table or the significance value is smaller than 0.05, then the multiple linear regression model can be continued or accepted. Calculation of the F table value can be done as follows:

$$F \text{ table} = f(k; nk) = f(4; 263 - 4) = f(4; 259) = 2.40$$

Information :

k : independent variable (X)

n : number of samples

Based on the calculations in table 4.15 that have been obtained, it can be seen that the calculated F from the F test results has a value that is greater than the value of the f table that has been tested. The calculated f value is 7.727 while the f table value obtained is 2.40 and the significance value obtained is 0.000 which indicates a value smaller than 0.05 so it can be concluded that this research model is feasible or can be used to predict the Effect of Safety commitment. Implementation of SOP, Supervision and Competency for Work Accidents at PT. Haleyora Power Unit Service Pekanbaru. This means that the Safety commitment, SOP Implementation, Supervision and Competency variables simultaneously (together) influence work accidents in this research.

#### 4.4 Interpretation

##### 4.4.1 Effect of Safety Commitment on Work Accidents

From the results of adding up the respondents' answers, there are two lowest indicator values, namely the Awareness of the Risk of Negligence and Carelessness indicator with an average score of 3.92 and the Knowledge of Safety Regulations and Procedures indicator with an average score of 3.95.

The low indicator of awareness of the risk of negligence and carelessness is reflected in the questionnaire answers regarding "I do not ignore the slightest factor" with a score of 3.76 and "momentary negligence can cause work accidents" with a score of 4.07. The author can conclude that there are still officers who are negligent in small ways when on duty, but because they are used to working in an unsafe manner, this is considered normal. The facts in the field are that there are still some officers who are negligent in safety factors. Especially in terms of implementing SOPs and using PPE. This can be caused by work habits that do not comply with procedures, so that negligence and carelessness are considered normal. For example, there are still many people who do not use work gloves when working. PLN, as the employer, has also carried out inspections and found that officers were not using PPE. A warning letter was also sent by the employer (PLN) so that the provider (HP) would commit and respond every time there was an officer's negligence by reprimanding the officer concerned.

Furthermore, the low indicator of knowledge of safety regulations and procedures is reflected in the questionnaire answers related to "I know the methods for dealing with safety accidents" with a score of 3.75 and "I know the protective equipment needed for the job" with a score of 3.94. From the answers to this questionnaire, it can be concluded that many officers actually do not know the function of personal protective equipment or how to prevent work accidents. The fact in the field is that there are still officers who do not understand the use of personal protective equipment. This could be caused by officers' lack of knowledge, so they ignore safety risks. For example, if they are going to work operating a 20,000-volt medium-voltage network, the officer still uses 1000-volt gloves or does not even use appropriate work gloves. Another factor that causes personal protective equipment (PPE) and work tools (Alker) not to be used as intended is their availability in vehicles. It is often found that, due to officer negligence,

PPE is lost. Therefore, the Field Coordinator is obliged to check and report the condition of the officers' PPE and Alker every shift and report it to the Team Leader HSSE so that compliance can be followed up.

#### **4.4.2 Effects of SOP Implementation on Work Accidents**

From the results of adding up the respondents' answers, there are two lowest indicator values, namely the worker involvement indicator in implementing SOPs with a score of 3.25 and the worker compliance indicator with SOPs of 3.54.

The low indicator of worker involvement in implementing SOPs is reflected in the questionnaire answers regarding "SOPs make work more structured" with a score of 2.97 and "I already understand the SOPs that apply in the company" with a score of 3.52. The author can conclude that there are still many officers who think that implementing SOPs makes work more unstructured or slower, and there are also many officers who do not understand how to work according to SOPs.

Facts in the field found that there were still many incidents of work being carried out not in accordance with the SOP. This is because officers think that working according to standards will slow down completion time. Another reason is due to the company's high targets, so work must be completed quickly. For example, officers do not install a grounding cluster when working on a 20,000-volt network. Installing a grounding cluster is very important to prevent sudden electrical voltage from coming from customers or maneuver errors that can save the lives of officers. This process is often bypassed by officers, so that the SOP becomes unstructured. Apart from that, it is necessary to carry out a joint evaluation between representatives of officers and management so that the SOP is always updated. so that officers also feel involved in preparing the SOP.

Furthermore, the low indicator of worker compliance with SOPs is reflected in the questionnaire answers related to "There is no need to skip one or more SOP steps to

shorten work time" with a score of 3.40, "I report to the leadership if there are colleagues who work not according to the SOP" with a score of 3.52, and "I have never experienced misunderstandings when working due to a lack of clarity in work procedures and instructions" with a score of 3.52. From the answers to this questionnaire, it can be concluded that officers still miss several steps in the soup, officers still do not have the courage to report to the leadership if there are colleagues who do not work according to the soup, and in the field there is still misunderstanding or communication when working due to the lack of clarity in work procedures and instructions.

The fact is that in the field, there are still SOPs that officers follow when working. Example: when working on a low-voltage network of 220/380 volts. Officers should test whether there is voltage or not using a voltage detector. Officers often bypass this by just going straight to work. Apart from that, it was also found that officers protected each other when their colleagues did not work according to standards. Officers do not dare to report their colleagues' negligence if they do not work according to the SOP. This can be caused by fear or because they think it is normal to do this because they are not being supervised. There are also often misunderstandings between colleagues, especially when operating the electricity network. This is very dangerous for the safety of individual officers and the public if they work without paying attention to safety.

#### **4.4.3 Effect of Supervision on Work Accidents**

From the results of adding up the respondents' answers, there are two lowest indicator values, namely Communication Style and Relationships with Workers with an average score of 3.29 and the Corrective Action and Improvement indicator with an average score of 3.72. The low indicator of communication style and relationships with workers is reflected in the questionnaire answers regarding "Supervisors are friendly and pleasant," with a score of 3.39, and "Supervisors reprimand if workers do their

work incorrectly" with a score of 3.19. The author can conclude that supervisors are less friendly or do not embrace officers and do not reprimand them if officers do not work correctly.

Facts in the field found that supervisors must be neutral towards officers. If you are too friendly, officers will sometimes not listen to what the supervisor says. Supervisors are also not always at one point of work due to the large area of work. Sometimes, because supervisors are busy moving from location to location, many supervisors just let it go or don't reprimand workers for work that doesn't comply with the SOP. This certainly does not have a good impact on reducing work accidents.

Furthermore, the low level of Corrective Action and Improvement indicators is reflected in the questionnaire answers regarding "Supervisors make corrections to deviations that occur" with a score of 3.79 and "Supervisors always remind them to use complete PPE" with a score of 3.65. The author can conclude that the supervisory function is not fully in line with expectations.

The facts in the field were found to be that supervisors still tolerated officers making procedural errors. This is because supervisors want work to be completed quickly to reduce complaints from employers. For example, when repairing a cable that broke out of the network, the supervisor just let the officers work without wearing complete PPE. Another reason is that supervisors do not dare to reprimand more senior workers. Supervisors should have more power than officers.

#### **4.4.4 Effect of Competency on Work Accidents**

From the results of adding up the respondents' answers, there are two lowest indicator values, namely skills with an average score of 4.04 and knowledge with an average score of 4.06.

The low skills indicator is reflected in the questionnaire answers "I have skills according to the expertise I have" with a score of 4.04 and "I am able to carry out work plans

so that my work runs smoothly" with a score of 4.03. The author can conclude that officers are not yet fully confident in their abilities and are also not smooth in implementing work plans.

Furthermore, the low knowledge indicator is reflected in the questionnaire answers related to "I can understand concepts related to job objectives" with a score of 3.99, and "I have an adequate level of knowledge in the field of work I do" with a score of 4.05. The author can conclude that officers fully understand the concept of work, which is also supported by an insufficient level of knowledge.

Facts in the field found that not all officers were skilled at work. This is due to the officers' insufficient knowledge base. For example, when the initial admission requirement is a minimum of a high school graduate or equivalent. Considering that engineering services work in the electrical sector, of course vocational schools majoring in electricity are more competent in terms of science and practice. Training to increase competency by companies is also very rarely carried out to equalize the knowledge of officers. The impression is that officers are skilled based on their experience while working, and this experience does not necessarily mean good safety procedures. Another factor, the lack of skills, is also caused by the individual officers' own willingness to learn from their colleagues to be competent.

#### **4.4.5 Effect of safety commitment, implementation of SOPs, supervision, and competence simultaneously on work accidents**

From the results of adding up the respondents' answers, there are 2 lowest indicator values for the work accident variable, namely Use of PPE and Aiker with an average score of 3.93 and indicators of Awareness of SOP and Safety with an average score of 4.01.

The low indicator of the use of PPE and safety equipment is reflected in the answers to the questionnaire regarding "The use of PPE influences the prevention of work accidents" with a score of 3.71 and "I carry out

maintenance on the tools used at work routinely to reduce work accidents" with a score of 3.94. The author can conclude that officers are not completely confident that the use of PPE can prevent work accidents, and maintenance of PPE and work equipment (alker) is not routinely carried out.

The facts in the field are that the use of complete PPE has not been fully implemented by all officers. This is caused by the habit of officers working without complete PPE because they feel uncomfortable using it for long periods. For example, it is often found that work gloves are not worn when working on electrical networks. After investigating, this was caused by workers who were uncomfortable or not used to using it. Apart from that, it was also found that routine maintenance of PPE and Alker was not carried out routinely by officers and was only carried out if requested by the supervisor. This is due to being busy carrying out work in the field. This lack of awareness of maintaining PPE and protective equipment means that the lifespan of PPE and equipment is shorter or damaged more quickly.

Furthermore, the low indicator of awareness of SOP and safety is reflected in the questionnaire answers related to "I am aware that my workplace has the potential for work accidents" with a score of 3.93 and "I am aware of the importance of implementing SOP and safety in carrying out work to cause work accidents" with a score of 4.05. The author can conclude that officers are not yet fully aware that their workplace is potentially dangerous, and officers also do not fully consider the implementation of SOP and safety important in their work.

Facts in the field found that not all officers were aware that their work was high-risk. This is due to work habits that have been carried out for years. Habits that do not comply with SOP implementation are very dangerous. For example, using a rope as a pole climbing tool This has been prohibited because there are already stairs. The implementation of SOPs and safety is also often ignored because the work wants to be completed quickly.

## 5. CONCLUSION

1. Safety commitment influences work accidents at PT. Haleyora Power Unit Service Pekanbaru. This shows that the increasing commitment to occupational safety and health implemented by workers in carrying out their work will increasingly minimize the risk of work accidents.
2. Implementation of SOPs affects work accidents at PT. Haleyora Power Unit Service Pekanbaru. This shows that the implementation of SOPs where employees are required to obey and be guided by the SOPs determined at work can minimize the risk of work accidents at PT. Haleyora Power Unit Service Pekanbaru.
3. Supervision influences work accidents at PT. Haleyora Power Unit Service Pekanbaru. This shows that the greater the level of supervision or control carried out on work safety and health, the more carelessness at work will be minimized, which will have an impact on work safety.
4. Competence influences work accidents at PT. Haleyora Power Unit Service Pekanbaru. This shows that the better the competence of workers regarding training and knowledge of work safety procedures, the greater the risk of work accidents occurring.

Based on the discussion of this research, there are several suggestions for companies to increase their safety commitment, implementation of SOPs, supervision, and competence in order to reduce work accidents, including

1. Make a safety commitment in the form of a written policy that is clear, easy to understand, and known to all workers.
2. Provide Training and Education:
3. Socialize the importance of safety in work to officers every day and take firm action against officers who do not carry out their work according to safety rules.
4. Provide strict sanctions for violators of safety regulations and officers who are

- negligent in the use and storage of PPE and work equipment.
5. Develop and implement SOPs by involving workers from the start. Involve workers in the development and review of SOPs, allowing them to provide input and feedback.
  6. Provide rewards and incentives to workers who follow SOPs correctly and make positive contributions to procedure development.
  7. Create a routine maintenance schedule for PPE and work equipment to ensure long service life.
  8. Emphasize the obligation of the supervisory function to check whether workers are performing according to standards or not, both in terms of PPE, work equipment, and the work being done. If not, the supervisor is obliged to stop work.
  9. Increase the number of supervisors to be more focused on supervising work.
  10. Improve communication between management and employees regarding the importance of avoiding negligence and carelessness and how to do it. Provide a mechanism for workers to provide suggestions and feedback on SOPs and make adjustments based on their input.
  11. Carry out team-building activities and promote positive social interactions to build better relationships between supervisors and workers. and reprimanded the officers not to repeat the same thing again.
  12. Carry out regular supervision and monitoring to ensure compliance with safety procedures and identify areas requiring improvement.

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#### BIOGRAPHIES OF AUTHORS

	<p><b>Maulana Yazid Al Annuri</b>    Master student of Management, Faculty of Economics and Business, Telkom University. <a href="mailto:maulanayazid.al@gmail.com">maulanayazid.al@gmail.com</a></p>
	<p><b>Mohammad Riza Sutjipto</b>, lecture of Management, Faculty of Economics and Business, Telkom University</p>
	<p><b>Muhammad Awaluddin</b>, lecture of Management, Faculty of Economics and Business, Telkom University</p>