

## Performance Reviewed from Occupational Safety and Health (K3), Load, Stress and Work Experience

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### ABSTRACT

*This research aims to determine and explain the influence of Occupational Safety and Health (OSH), Workload, Stress, and Work Experience on the Performance of Belitung Power Plant Employees. This type of research is a quantitative research type. This research was conducted at the Belitung Power Plant. The research was conducted over a period of two months, specifically from November to December 2024. The population used in this study consists of 73 employees at the Belitung Power Plant. In this study, the sampling technique used is nonprobability sampling with the technique taken being saturated sampling (census). The researcher chose the sample using the saturated sampling technique because the population size is relatively small, so the sample used in this study consists of 73 people. Primary data in this study comes from workers' responses in the form of questionnaires about performance, K3 (Occupational Health and Safety), workload and work stress, as well as work experience. The instrument used in this study is a questionnaire with an ordinal measurement scale, which assigns values or scores to the answers obtained from the list of questions, ranging from the lowest to the highest questions. Each item question on these variables uses a measurement scale within the score range of 1 (one) to 4 (four); these scores are differentiating and ranking. This study uses multiple linear regression with the aid of SPSS 24 software. The research results show that Occupational Safety and Health (OSH), Workload, Stress, and Work Experience have an impact on the Performance of PLTU Belitung Employees by 61.9%, while the remaining 38.1% is explained by other variables not included in this study. The recommendation from this study is that PLTU employees can improve Occupational Safety and Health (OSH), Workload, Stress, and Work Experience to achieve optimal performance results for PLTU Belitung.*

**Keywords:** Performance, Occupational Safety and Health (OSH), Workload, Stress, and Work Experience, PLTU Employees

### ABSTRAK

Penelitian ini bertujuan untuk mengetahui dan menjelaskan pengaruh Keselamatan dan Kesehatan Kerja (K3), Beban Kerja, Stres, dan Pengalaman Kerja terhadap kinerja Karyawan Pembangkit Listrik Belitung. Jenis penelitian ini adalah jenis penelitian kuantitatif. Penelitian ini dilakukan di PLTU Belitung. Penelitian dilakukan selama dua bulan, tepatnya dari November hingga Desember 2024. Populasi yang digunakan dalam penelitian ini terdiri dari 73 karyawan di Pembangkit Listrik Belitung. Dalam penelitian ini, teknik pengambilan sampel yang digunakan adalah *non probability sampling* dengan teknik yang diambil adalah *saturated sampling* (sensus). Peneliti memilih sampel menggunakan teknik sampling jenuh karena ukuran populasinya relatif kecil, sehingga sampel yang digunakan dalam penelitian ini terdiri dari 73 orang. Data primer dalam penelitian ini berasal dari respons pekerja berupa

kuesioner tentang kinerja, K3 (Kesehatan dan Keselamatan Kerja), beban kerja dan stres kerja, serta pengalaman kerja. Instrumen yang digunakan dalam penelitian ini adalah kuesioner dengan skala pengukuran ordinal, yang menetapkan nilai atau skor pada jawaban yang diperoleh dari daftar pertanyaan, mulai dari pertanyaan terendah hingga tertinggi. Setiap soal item pada variabel ini menggunakan skala pengukuran dalam kisaran skor 1 (satu) sampai dengan 4 (empat); Skor ini membedakan dan memberi peringkat. Penelitian ini menggunakan regresi linier berganda dengan bantuan perangkat lunak SPSS 24. Hasil penelitian menunjukkan bahwa Keselamatan dan Kesehatan Kerja (K3), Beban Kerja, Stres, dan Pengalaman Kerja berdampak pada Kinerja Karyawan PLTU Belitung sebesar 61,9%, sedangkan sisanya 38,1% dijelaskan oleh variabel lain yang tidak termasuk dalam penelitian ini. Rekomendasi dari penelitian ini adalah karyawan PLTU dapat meningkatkan Keselamatan dan Kesehatan Kerja (K3), Beban Kerja, Stres, dan Pengalaman Kerja untuk mencapai hasil kinerja yang optimal bagi PLTU Belitung.

**Kata Kunci:** Kinerja, Keselamatan dan Kesehatan Kerja (K3), Beban Kerja, Stres, dan Pengalaman Kerja, Karyawan PLTU

## INTRODUCTION

Human Resources is a factor that plays a very big role in a company. Every company certainly wants optimal work results by expecting good employee performance. As we know that employee performance will increase if the needs of each employee are met. In this case, the company must continue to spur the performance of its employees so that the expected target can be achieved.

Employee performance in a company or organization can be influenced by several factors, one of which is the supporting facility factor. The supporting facility factors in question are the work environment, work safety, work health and matters related to employee welfare such as wages/salaries, social security or compensation. The government through Law Number 13 of 2003 paragraph 5 Article 87 Point (1) concerning Occupational Safety and Health, every company is required to implement an integrated occupational safety and health management system with the company management system. This regulation is strengthened by Law Number 1 of 1970 concerning Occupational Safety and Law Number 23 of 1992 Part Six concerning Occupational Health and PP Number 50 of 2012 concerning the Occupational Safety and Health Management System. To achieve the success of the company in carrying out daily operational activities, the performance of a company's employees will determine that success. The implementation of these operational activities cannot be separated from the role of employees as implementers. In this case, employee activities will greatly depend on the occupational safety and health (K3) conditions of employees (Pancasasti et.al. 2022). Occupational safety and health (K3) is a thought and effort to ensure the integrity and perfection of both the physical and spiritual workforce in particular, and humans in general, the results of work and culture to become a just and prosperous society (Wangi, Bahiroh & Imron, 2020).

Performance is the level of employee success in completing workloads

(heavy and light work. The lighter the workload given, the faster it is completed. However, this assumption is not always true. Sometimes light workloads actually cause employee performance to decline. This is because employees feel that they can no longer be trusted or feel that they are not contributing enough to their work, which causes laziness to work even though the workload given is quite light. One way to see the development of the company is to look at the results of the performance assessment (Damaiyanti & Hanifa, 2021). It is important to distribute the workload among employees to avoid tasks that are too heavy. Excessive workloads can cause fatigue, both physically and mentally, which in turn can have a negative impact on employees as a whole. Giving a workload according to individual abilities will encourage work activity, because employees do not feel burdened by the tasks given. Workload is very important for companies or agencies, because by giving the right workload, the company can find out to what extent its employees can be given the maximum workload and to what extent it affects performance in the company (Sutarini, Yudarta & Wirantari, 2024)

Stress is a form of a person's response, both physically and mentally, to a change in their environment that is felt to be disturbing and causes them to be threatened. When associated with work, the problem of stress is basically often associated with stress that occurs in the work environment, namely in the process of interaction between an employee and aspects of their work and their position is very important in relation to employee performance productivity (Aulia, 2021). Human resource managers must pay attention to the work environment and inadequate work facilities that cause poor performance and be able to provide direction so that workers do not experience stress at work (Kusuma, Ferdinand & Sunarsi)

Experience is one of the factors that influences a person's performance in carrying out tasks to achieve organizational goals. An employee's work experience in a government or organization will affect the performance of the government or organization. By being equipped with a lot of experience, the possibility of realizing good achievements or performance is quite convincing and vice versa if someone is not experienced enough in carrying out their duties, they will be more likely to fail (Basyit, Sutikno & Dwiharto, 2020). An employee's work experience is a process of understanding to behave in a disciplined manner, which is obtained from formal or non-formal education or is considered a process that aims to create better performance. Therefore, the more work experiences an employee has, the easier it is for the employee to achieve maximum performance, therefore the company should accept employees who already have work experience in order to create better performance (Sitompul & Simamora, 2021)

In order to fulfill the current global energy infrastructure, Steam Power Plants (PLTU) have a central role as the main source of electricity to meet the electricity needs of industry, commercial and households. Steam Power Plants (PLTU) must ensure that they operate safely, efficiently and effectively by maintaining worker productivity. Belitung PLTU located in Suge Hamlet,

Pegantungan Village, Badau District, Belitung Regency, Bangka Belitung Islands Province with an installed power capacity of 2 x 16.5 MW is the main supporter of electricity sources for the Belitung Community.

Along with the increasing need for energy, Belitung PLTU not only functions as the main electricity supplier, but also plays an important role in supporting regional economic growth. With an installed capacity of 16.5MW, Belitung PLTU is able to provide a stable and reliable electricity supply to various sectors, from large industries to small and medium enterprises. The existence of this PLTU is the backbone of economic and social activities in Belitung Regency, enabling the growth of the tourism and fisheries industries which are leading sectors in this area.

Lack of attention to OHS can result in serious work accidents, which can ultimately disrupt the operation of the PLTU and result in additional costs for medical care and rehabilitation of workers. Therefore, a strong OHS aspect and awareness of the importance of OHS in PLTU operations are a must. Still, a lack of attention to the Occupational Health and Safety (K3) aspect can result in serious work accidents. Such accidents not only endanger the safety of workers, but also have the potential to disrupt the operation of the PLTU as a whole. When a work accident occurs, operations can be temporarily halted, causing production delays and reduced efficiency. In addition, work accidents can result in significant additional costs.

The still high workload at the PLTU not only impacts productivity but also has direct implications for worker welfare. In fact, in dynamic and often urgent operational conditions, PLTU workers must be ready to face various challenges that can increase work pressure. Excessive workload can cause physical and mental fatigue, which ultimately reduces worker effectiveness and efficiency. Work stress not only reduces employee productivity but also has a serious impact on their overall well-being. In the context of PLTU operations, where work risks are high and operational pressure is often the norm, work stress can be a major threat. There are still employees who experience excessive work stress, as seen in symptoms such as chronic fatigue, decreased concentration, and sleep disorders. All of this not only reduces their ability to work efficiently but also increases the possibility of work accidents, which in a PLTU environment can be fatal.

The work experience of employees at the Belitung PLTU is not only a major determinant in their ability to overcome challenges and complex situations, but also affects the overall operational performance. The presence of employees with less work experience causes them to face difficulties in understanding the operational complexity of the PLTU. Lack of in-depth understanding of procedures and best practices can also lead to increased error rates and delays in completing tasks. This not only affects individual productivity, but can also impact operational safety and overall output quality.

## RESEARCH METHODS

This type of research is quantitative research. This research was conducted at the Belitung PLTU. The research time was carried out for two months, namely in November - December 2024. The place was chosen with the consideration that the Belitung PLTU had never been used for the same research and the less-than-optimal performance of the employees was caused by the less than optimal implementation of K3, high workload and work stress and still lack of experience.

The population used in this study was 73 employees at the Belitung PLTU.

In this study, the sampling technique used is nonprobability sampling with the technique taken, namely saturated sampling (census). The saturated sampling technique is a sampling determination technique when all members of the population are used as samples. The researcher chose a sample using the saturated sampling technique because the population is relatively small, so the sample used in this study amounted to 73 people.

Primary data in this study came from workers' answers in the form of questionnaires about performance, K3, workload and stress, and work experience. The instrument used in this study was a questionnaire instrument with an ordinal measurement scale, namely providing a value or score for the answers obtained from the lowest to the highest list of questions. Each question item on the variable uses a measurement scale between a score range of 1 (one) to 4 (four). This score is differentiating and ordering. This study uses multiple linear regression with the help of SPSS 24 software.

## RESULTS AND DISCUSSION

### Multiple Linear Regression Test

**Table 1. Multiple Linear Regression Results**

No	Variables	Unstandardized B	Information
1	(Constant)	10,249	Positive
2	Occupational Safety and Health (K3)	0.147	Positive
3	Workload	0.583	Positive
4	Job Stress	0.114	Positive
5	Work experience	0.125	Positive

Source: Data processed in 2024

Based on the table above, it can be seen that the regression equation formed is:

$$Y = 10.249 + 0.147 X_1 + 0.583 X_2 + 0.114 X_3 + 0.125 X_4$$

From this equation it can be explained that:

a. Constant (a)

The constant value of 10.249 indicates that the variables of Occupational Safety and Health (K3), Workload, Work Stress and Work Experience if the value is 0 then the Performance of Belitung PLTU Employees has a Performance level of 10.249.

b. Occupational Safety and Health (K3) Coefficient (b<sub>1</sub>)

The value of the Occupational Safety and Health (K3) coefficient or the Occupational Safety and Health (K3) variable ( $\beta_1$ ) is 0.147 with a positive value. This means that for every 1-fold increase in Occupational Safety and Health (K3), the Performance of Belitung PLTU Employees will increase by 0.147 assuming other variables are constant.

c. Workload Coefficient (b<sub>2</sub>)

The value of the Workload coefficient or Workload variable ( $\beta_2$ ) is 0.583 with a positive value. This means that for every 1-fold increase in Workload, the Performance of Belitung PLTU Employees will increase by 0.583 assuming other variables are constant.

d. Work Stress Coefficient (b<sub>3</sub>)

The value of Job Stress or Job Stress variable ( $\beta_3$ ) is 0.114 with a negative value. This means that for every 1-fold increase in Job Stress, the Performance of Belitung PLTU Employees will decrease by 0.114 assuming other variables are constant.

e. Work Experience Coefficient (b<sub>4</sub>)

The Work Experience Value or Work Experience variable ( $\beta_3$ ) is 0.125 with a negative value. This means that for every 1-fold increase in Work Experience, the Performance of Belitung PLTU Employees will decrease by 0.125 assuming other variables are constant.

**Model Feasibility Test**

**Table 2. Model Testing Results**

Model	Fcount	Ftable	Sig.	Standard	Information
Regression	12,356	2.74	0,000	0.05	Eligible Model

Source: Data processed in 2024

From the results of the model feasibility test, F count > F table of 12.356 > 2.74 was obtained with a significance of 0.000, meaning that this analysis is significant with a significance level of less than 0.05, so H<sub>0</sub> is rejected and H<sub>a</sub> is accepted. In other words, there is an intermediate influence Occupational Safety and Health (K3), Work Load, Work Stress and Work Experience simultaneously and significantly on the Performance of Belitung PLTU Employees and meets the feasibility test for the model.

**Hypothesis Testing**

**Table 3. Hypothesis Testing Results**

Hypothesis	count	table	Sig.	Standard	Information
H1	3,259	>1,994	0.027	0.05	Ha Accepted
H2	5,905	>1,994	0,000	0.05	Ha Accepted
H3	2,021	>1,994	0.047	0.05	Ha Accepted
H4	3,315	>1,994	0.013	0.05	Ha Accepted

Source: Data processed in 2024

Based on the results of the t-test in the table above, it can be explained in a hypothesis in the following form:

- a. The Influence of Occupational Safety and Health (K3) on Performance Belitung PLTU employees

Occupational Safety and Health (K3) variables have a value count > table (2,259 >1,994) and significance  $0.027 < 0.05$  then  $H_0$  is rejected and  $H_a$  accepted. It can be concluded that Occupational Safety and Health (K3) has a positive and significant influence on the Performance of Belitung PLTU Employees.

- b. The Effect of Workload on Performance Belitung PLTU employees

Workload variable has a value count > table (5,905 >1,994) and significance  $0.000 < 0.05$  then  $H_0$  is rejected and  $H_a$  accepted. It can be concluded that Workload has a positive and significant effect on the Performance of Belitung PLTU Employees.

- c. The Influence of Work Stress on the Performance of Belitung PLTU Employees

The Work Stress variable has a value count > table (2,021 >1,994) and significance  $0.047 < 0.05$  then  $H_0$  is rejected and  $H_a$  accepted. It can be concluded that work stress has a positive and significant effect on the Performance of Belitung PLTU Employees.

- d. The Influence of Work Experience on Performance Belitung PLTU employees

The Work Experience variable has a value count < table (3,315 <1,994) and significance  $0.013 < 0.05$  then  $H_0$  is accepted and  $H_a$  rejected. It can be concluded that Work Stress has a positive and significant effect on the Performance of Belitung PLTU Employees.

**Coefficient of Determination Test (R<sup>2</sup>)**

**Table 4. Determination Coefficient Results**

Model	R	R Square	Adjusted R Square	Information
1	0.787	0.619	0.571	Eligible Model

Source: Data processed in 2024

Based on the calculation results, the adjusted R square value is 0.619. This means that the variables of Occupational Safety and Health (K3), Workload, Work Stress and Work Experience contribute to Performance by 61.9% while the remaining 38.1% is explained by other variables not proposed in this study.

## Discussion

### 1. The Influence of Occupational Safety and Health (K3) on Performance Belitung PLTU employees

Occupational Safety and Health (K3) variables have a value count > table (2,259 >1,994) and significance  $0.027 < 0.05$  then  $H_0$  is rejected and  $H_a$  is accepted. It can be concluded that Occupational Safety and Health (K3) has a positive and significant effect on the Performance of Belitung PLTU Employees.

The results of research on Occupational Safety and Health (K3) have a positive and significant impact on performance. Belitung PLTU employees in line with the research conducted by Pancasasti et.al. (2022) which found that K3 had a positive and significant effect on performance, but not in line with the results of research by Wangi & Bahiro, & Imron (2020) which found that Occupational Safety and Health (K3) did not have a positive and significant effect on Employee Performance.

The current condition of K3 implementation at the Belitung PLTU is quite good according to the established standards, so that the risk of work accidents that endanger the health and safety of employees working at the Belitung PLTU can be minimized.

### 2. The Influence of Workload on Performance Belitung PLTU employees

The Workload variable has a value count > table (5,905 >1,994) and significance  $0.000 < 0.05$  then  $H_0$  is rejected and  $H_a$  is accepted. It can be concluded that the Workload positive and significant influence on the Performance of Belitung PLTU Employees.

The results of the study on Workload have a positive and significant effect on Work Performance. Belitung PLTU employees In line with the research of Damaiyanti & Hanifa (2021), the results showed that workload had a positive effect on employee performance and Sutarni, Yudhartha & Wirantari (2024) found that workload had a significant negative effect on employee performance.

The current workload conditions of Belitung PLTU employees are appropriate and not excessive or overloaded, so that employees can carry out the work that is their responsibility comfortably and not under pressure so that their performance results are also quite satisfactory according to expectations.

### **3. The Effect of Work Stress on Performance-on-Performance Belitung PLTU employees.**

The Job Stress variable has a t count value  $>$  t table ( $2.021 > 1.994$ ) and a significance of  $0.047 < 0.05$ , so  $H_0$  is rejected and  $H_a$  is accepted. It can be concluded that Job Stress has a positive and significant effect on the Performance of Belitung PLTU Employees.

The results of the study on Workload have a positive and significant effect on Work Performance Belitung PLTU employees In line with research by Aulia (2021) and Kusuma, Ferdinand & Sunarsi (2023), the results showed that the work environment and stress partially and simultaneously had a positive and significant effect on employee performance.

Currently, Belitung PLTU employees do not experience significant work stress that could disrupt their mental health due to the workload being in accordance with the abilities of each employee in the type of work that is their responsibility.

### **4. The Influence of Work Experience on the Performance of Belitung PLTU Employees**

The Work Experience variable has a t count value  $<$  t table ( $3.315 < 1.994$ ) and a significance of  $0.013 < 0.05$ , so  $H_0$  is accepted and  $H_a$  is rejected. It can be concluded that Work Experience has a positive and significant effect on the Performance of Belitung PLTU Employees.

The results of the study on Work Experience on Employee Performance at the Belitung PLTU have a positive and significant effect in line with research by Basyit, Sutikno & Dwiharto (2020) which obtained the results that work experience has a positive and significant effect on employee performance partially and simultaneously but is not in line with the research of Sitompul & Simamora (2021) who conducted a study with the results that workload has no effect and is not significant on employee performance.

The work experience of Belitung PLTU employees, most of which is between 5 - 10 years, is one of the things that influences employee performance because the duration of their work period is sufficient to make the company produce service products according to expectations and meet the needs of the community.

## **CONCLUSION AND SUGGESTIONS**

This study aims to test and analyze the influence of Occupational Safety and Health (K3), burden, stress and work experience on the performance of Belitung PLTU employees. This study is a quantitative descriptive study with a population and sample of 73 (seventy-three) Belitung PLTU employees. The research instrument is a questionnaire with a Likert scale and multiple linear regression analysis. The results of the study indicate that there is a positive influence between Occupational Safety

and Health (K3), burden, stress and work experience on the performance of Belitung PLTU employees.

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