



# The Management of Occupational Health and Safety and Environmental Management In Order To Achieve The Blue Proper (Performance Rating Program) Target At The Nusa Penida Power Plant In Bali.

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**Abstract** – Industry is one of the pillars driving strategic economic growth, but on the other hand it can also have a negative impact on environmental quality. The company's concern for the environment is also called environmental performance. The measure of a company's environmental performance can be seen from the company's achievements in participating in the Company Performance Rating Assessment Program (PROPER). This research aims to find out, describe and analyze how to properly implement it as well as supporting and inhibiting factors in achieving the Blue PROPER target at PLTD Nusa Penida Bali (Study on Air Pollution Control). The type of data in this research is information related to research, therefore the researchers used descriptive methods with a qualitative approach. The research location was carried out at PLTD Nusa Penida Bali. The data used is primary data, namely data obtained from interviews and secondary data is document data obtained from PLTD Nusa Penida Bali. The data analysis technique in this research uses descriptive analysis with a qualitative approach.

**Keywords-** environmental performance, application of PROPER, Air Pollution Control, air pollution quality standards, PLTD Nusa Penida Bali

## I. INTRODUCTION

Environmental sustainability has an important role in how long a company can survive in an area without violating the law in terms of environmental pollution [1]. For example, as stated by Aziz (2013: 41) The environment is a combination of physical conditions which include the state of natural resources such as land, water, solar energy, minerals, as well as flora and fauna that grow on land and in the ocean, with institutions that includes human creations such as decisions about how to use the physical environment [2].

In carrying out operational and production activities to create a good living environment, a company needs to

prioritize caring for the surrounding environment [3]. Several aspects that must be adhered to are in terms of potential air pollution, water pollution and B3 waste from the results of operation and maintenance activities [4].

The company's awareness of ensuring good environmental performance is actually an embodiment and meeting point between the interests of the company's ethical actors and the essence of sustainable development strategies, namely through integrating economic, social, community and environmental development[6]-[11] .

In reality, the company's environmental performance does not always work well. There are several cases that show the fact that the performance of a company is felt to be bad and detrimental [12]. The good and bad measures of a company's environmental performance can be seen from the company's achievements in participating in the Company Performance Rating Assessment Program (PROPER) in environmental management. (Setyaningsih, 2016: 5) [13]-[15].

Measurement of environmental performance by looking at the company's achievements following the PROPER program which is one of the efforts made by the Ministry of Environment (KLH) to encourage corporate management in Environmental Management through information instruments. The proper performance rating system includes ranking companies in five colors which will be scored consecutively with the highest score being 5 for gold, 4 for green, 3 for blue, 2 for red, and the lowest score 1 for black [16]-[19].

In reality, the company's business operations also have a negative impact on the environment. One of the negative impacts that often arises in every violation of a company's business operations is air pollution [20]. There are several cases where the negative impacts and losses are not only felt by the surrounding community, but these losses are also felt by the state. This loss often arises from air

pollution affecting the environment around the company [21]-[22].

The Law on the Environment is contained in Law No. 4 of 1982 concerning the main provisions for managing the Environment which aims to regulate environmental management based on a comprehensively integrated national policy and Law no. 32 of 2009 concerning protection and management of the environment, protection and management of the environment are systematic and integrated efforts made to preserve environmental functions and prevent environmental pollution and/or damage which includes planning, utilization, control, maintenance, supervision, and law enforcement [23]-[24].

Environmental damage cannot be separated from the good or bad environmental performance of a company. Good environmental performance will minimize the impact of environmental damage that may occur, while poor company performance will cause environmental damage on a large scale [25]. Therefore, researchers want to analyze how K3 and Environmental Management Management Efforts in the Context of Achieving Proper Blue Targets at PLTD Nusa Penida Bali (Study on Air Pollution Control).

## II. RESEARCH METHODS

Descriptive analysis is a method used to analyze data by describing the data that has been collected without intending to conclude in general terms (Sugiyono, 2012: 29). Qualitative according to Denzim and Lincoln (in Moleong, 2008: 5) is research that uses a natural setting, with the intention of interpreting phenomena that occur and is carried out by involving various existing methods.

The type of data in this research is in the form of information related to research, therefore the researcher uses a descriptive method with a qualitative approach. On the basis of the two explanations above, the researcher decided to describe and analyze how K3 management and the environment are managed in order to achieve the Proper Blue target at PLTD Nusa Penida Bali (Air Pollution Control Study).

## III. WORK AND DISCUSSION OF RESULTS

### A. Presentation of Research Focus Data

#### *Compliance Efforts to Fulfill Competency of Air Pollution Control Personnel*

Efforts to comply with the fulfillment of the competence of Air Pollution Control personnel are the main aspects of the PROPER assessment seen from the category of Air Pollution Control carried out by companies. Based on the researcher's interview with Mr Bambang Rianto as Unit Manager of PLTD Nusa Penida he explained:

"Regarding PROPER Air Pollution Control based on PERMENLHK No. 1 of 2021 that every company is

required to have at least 1 Personnel who have been certified by BNSP, namely Energy Manager certification, Person in Charge of Air Pollution Control and Person in Charge of Air Pollution Operations. (Interview on July 7, 2023 at 09.30).

This is similar to what was conveyed by Mr. I Gede Agus Suyadnyana as Operations Supervisor and Energy Manager certification owner:

"Personnel who have responsibility in Handling Air Pollution Control must be competent by demonstrating that they have been certified." (Interview on July 7, 2023 at 09.45).

Based on these interviews, it can be concluded that the Ministry of Environment makes the fulfillment of Air Pollution Control Personnel Competency the main requirement to be able to meet the PROPER criteria for Air Pollution Control. Efforts to comply with the competency of air pollution control personnel consist of 2 assessment colors, namely red and blue. The blue color reference is given if the company has personnel who are responsible and competent in Air Pollution Control, and the red color is given if the company does not have personnel who are responsible and competent in Air Pollution Control. This is in accordance with the statement made by Mr. Bambang Rianto as Unit Manager PLTD Nusa Penida as follows:

"If the fulfillment of these personnel competencies is not achieved, the Nusa Penida PLTD will automatically get a red score and this criterion, and will immediately fail in the Blue PROPER assessment" (Interview on 7 July 2023 at 09.30).

From the interview above it can be concluded that the Nusa Penida PLTD Management prioritizes fulfilling competency certification for personnel responsible for Air Pollution Control in order to avoid red report cards and legal sanctions from the Ministry of Environment. Below the author includes an image of the Competency Certificate for Personnel responsible for Air Pollution Control



Picture 1 Competency Certification POIPPU  
Source: PLTD Nusa Penida Bali



Picture 2 Competency Certification PPPU  
Source : PLTD Nusa Penida Bali

**Efforts to Compliance with Compliance with Emission Sources and Compliance Points**

The second PROPER assessment aspect is the fulfillment of emission sources and compliance points in Air Pollution Control based on PERMENLHK No. 1 of 2021. Based on the researcher's interview with Mr. Bambang Rianto as Unit Manager of PLTD Nusa Penida Bali, he explained:

"Regarding the criteria for fulfilling emission sources and compliance points, it has been regulated in PERMENLHK No. 1 of 2021" (Interview on July 8 2023 at 11.00).

Based on these interviews, it can be concluded that compliance with compliance with emission sources and compliance points is a reference for the KLHK assessment to assess the company's environmental performance. This is in accordance with the results of the author's interview with Mr. Bambang Rianto as the Nusa Penida Bali PLTD Unit Manager, he explained:

"Efforts to comply with emission sources and compliance points for the Nusa Penida PLTD are in accordance with the PROPER criteria. Apart from that, to identify the type of emission source, we use the PLTD Appendix III A (fuel oil) reference – Minister of Environment and Forestry P.15 of 2019." (Interview on July 8, 2023 at 11.00).

From the interviews above, it can be concluded that efforts to comply with emission sources and arrangement points for the Nusa Penida Bali PLTD are in accordance with the requirements of PROPER provisions. In the following, the author includes photo attachments for identification of structuring points and emission sources:



Picture 3 Appendix of data supporting chimneys and sampling facilities in the application SIMPEL KLHK  
Source : Website SIMPEL KLHK

**Efforts to Adhere to Parameters**

Compliance with water parameters in this case is important, because one aspect of the PROPER assessment is seen from the category of air pollution control carried out by the company. This has been regulated in PERMENLHK No.1 of 2021. Based on an interview with Mr. Bambang Rianto as the Unit Manager of PLTD Nusa Penida Bali, he explained:

"The third aspect of the assessment is compliance with air parameters." (Interview on July 10, 2023 at 10.00).

Air pollution control is one of the important criteria of several criteria that must be met in PROPER. In the air pollution control criteria, there are two assessment color criteria, including blue, namely carrying out manual emission monitoring of all parameters in accordance with the provisions in permits and/or laws and regulations (100% and monitoring all mandatory CEMS parameters and all mandatory CEMS parameters integrated through Sispect 100%.

Next is the criterion red which states that it does not carry out manual emission monitoring of all parameters in accordance with the provisions in permits and/or laws and regulations (<100%) and does not carry out monitoring of all mandatory CEMS parameters and mandatory CEMS parameters that are not integrated through SISPEK (100%).

According to Mr. Bambang Rianto as Unit Manager of PLTD Nusa Penida Bali, compliance with air parameters at PLTD Nusa Penida Bali stated as follows:

"Regarding the observance of air parameters at the Nusa Penida Bali PLTD it is in accordance with PROPER rules, we use a reference of 4 parameters for manual emissions including Sulfur dioxide, nitrogen oxides, carbon monoxide and total particulates. We adjust it according to the UKL-UPL documents that we have and to date we are 100% compliant in monitoring these parameters." (interview on July 10, 2023 at 11.00).

This is similar to what was conveyed by Mr. I Gede Agus Suyadnyana as Operations Supervisor that:

"In addition to compliance with manual emission parameters, we are also required to comply with CEMS parameters, namely Nox, SO2, PM, Flow Rate, Oxygen and CO2." (Interview on July 10, 2023 at 12.00)

From the interview above it can be concluded that compliance with air parameters at the Nusa Penida PLTD is in accordance with the PROPER criteria with a blue reference point.

**Compliance Efforts Against the amount of data reported**

Reporting on the results of parameter monitoring is carried out routinely every month for the SIMPEL KLHK website and manual reporting is carried out per quarter to the Klungkung Regency Environmental Service, the Bali

Province Forestry & Environment Service and the Center for Security and Legal Handling of the Environment and Forestry.

The data reported are the results of monthly manual emission laboratory tests and monitoring data via CEMS. This was clarified by Mr. Bambang Rianto as Unit Manager of PLTD Nusa Penida as follows:

"We routinely monitor manual emissions and CEMS and report them through the SIMPEL KLHL website and write a letter to the Environment Agency." (Interview on July 11, 2023 at 10.00).

Based on these interviews, it can be concluded that the informants believed that the Nusa Penida Bali PLTD had conducted monitoring every month, and after that reported the monitoring results to the SIMPEL KLHL Website and wrote a letter to the Environment Agency. The standard for reporting is manual emission lab results and CEMS data taken from the results of data storage recorded every hour. Thus the results of these observations show that the Nusa Penida Bali PLTD has obeyed the amount of data reported. In the following, the author attaches the report submitted by the Nusa Penida Bali PLTD to the Related Services.



Picture 4 Receipt of reporting to the Environmental Service

Source : PLTD Nusa Penida Bali

**Efforts to Adhere to Quality Standards**

Air quality standard results are an important element for assessment which will influence the company's PROPER rating. Quality standards are parameters in controlling air pollution according to Mr. Bambang Rianto as Unit Manager of PLTD Nusa Penida Bali, he explained:

"So far, the results of the Nusa Penida PLTD manual emission test laboratory analysis have never exceeded the quality standards." (Interview on July 12, 2023 at 09.00)

A good quality standard test result is that it does not exceed the required parameter thresholds. To continue to know the quality of chimney air in the Nusa Penida Bali PLTD operation process, the company conducts laboratory tests periodically every month. This lab test is in collaboration with one of the KAN-accredited labs, namely Binalab. This statement is reinforced by the answer of Mr. Bambang Rianto as Unit Manager of PLTD Nusa Penida Bali, namely:

"We conduct periodic laboratory tests every month, and this procedure has been running since the publication of the new Director General Regulation number 17 of 2022 which requires manual emissions tests to be carried out

once every month. The results of laboratory tests so far have always been below the set parameter limits. (Interview on 12 July 2023 at 09.30).

Based on interviews conducted by researchers, the Nusa Penida Bali PLTD Unit has carried out regular checks by means of laboratory tests on the quality of chimney emissions, and based on the results of observations researchers show that in the 2020-2023 period manual emission tests never exceeded the specified parameter thresholds. The attached results of research observations related to the monthly emission test report are as follows:

Picture 5 Manual Emission Lab Test Results  
Source : PLTD Nusa Penida

**Efforts to Compliance with Technical Provisions**

As an effort to comply with technical provisions for air pollution control, PLTD Nusa Penida Bali uses external laboratory services to support compliance with monthly emission monitoring. The use of external laboratory services must comply with the provisions provided by the Ministry of Environment and Forestry. Based on the researcher's interview with Bambang Rianto as Unit Manager, he said:

"The external laboratory that we use is KAN accredited. "Because the standards from the Ministry of Environment and Forestry itself for laboratories that may be used are those that are KAN certified." Interview on July 15, 2023 at 09.00.

This is similar to what was conveyed by Mr. I Gede Agus Suyadnyana as Operations Supervisor as follows:

"Selecting a laboratory that has been accredited by KAN is one of our efforts to avoid legal supervision sanctions from the Ministry of Environment and Forestry." Interview on July 15, 2023 at 10.00.

Based on the interview, it can be concluded that the provisions carried out by the Nusa Penida PLTD have followed the standards requested by the Ministry of Environment and Forestry as an effort to maintain air pollution control procedures and avoid legal oversight sanctions. This means that compliance with the technical provisions for controlling air pollution at the Nusa Penida Bali PLTD has been going well.

## **B. Data Analysis and Discussion**

### ***Compliance Efforts to Fulfill Competency of Air Pollution Control Personnel***

Efforts to comply with the fulfillment of the competence of air pollution control personnel in this case are important, because one aspect of the PROPER assessment is seen from the compliance with the fulfillment of personnel competence. As a result of research conducted by researchers, PLTD Nusa Penida has made efforts to comply with personnel competency requirements. This can be proven by the data submitted on the SIMPEL KLHK website. PLTD Nusa Penida Bali has personnel who have been certified as Energy Managers, Persons Responsible for Air Pollution Control and Persons Responsible for Operational Air Pollution Control. With all certified personnel equipped, PLTD Nusa Penida Bali has met the blue assessment criteria because it has personnel who are responsible and competent in Air Pollution Control.

### ***Efforts to Compliance with Compliance with Emission Sources and Compliance Points***

PROPER is one of the environmental assessment excellence programs implemented by the Ministry of the Environment and is a form of government policy to improve the company's environmental management performance in accordance with what has been stipulated in statutory regulations (Setyaningsih, 2016).

The aim of implementing PROPER in Indonesia is to increase company compliance in environmental management, increase shareholder commitment in efforts to preserve the environment, improve environmental performance in a sustainable manner, increase awareness of business actors in complying with environmental laws and regulations, and also encourage companies to apply 4R (Reduce, Reuse, Recycle, and Recovery) in production waste processing procedures.

The results of research conducted by researchers, PLTD Nusa Penida Bali have made efforts to comply with emission compliance points. This can be obtained from observational data conducted by researchers. The compliance points have not changed from the start of operation in 2019 to 2023. Based on this data, it can be concluded that the Nusa Penida PLTD has met the blue assessment criteria because it has monitored all emission sources and/or regulation points manually and with CEMS.

### ***Parameter Compliance Efforts***

Measuring stationary source emission levels requires standard quality parameters. Emission quality standards are benchmarks used to determine whether emissions are declared dangerous or not. The environmental performance assessment criteria in PROPER are based on the company's performance in fulfilling the requirements set out in the applicable laws and regulations. During the research conducted by the researchers, the researchers found the results that PLTD Nusa Penida Bali had made efforts to comply with emission parameters in accordance

with those stated in the emission quality standards according to PROPER. These findings are strengthened by the observation reports from 2019-2023 that there were no findings that exceeded quality standards. Based on this data, it can be concluded that the Nusa Penida PLTD has met the blue assessment criteria because it has monitored emission parameters.

### ***Compliance Efforts Against the amount of data reported***

Compliance with reporting the results of air pollution control monitoring has been carried out well by PLTD Nusa Penida Bali. The quality of the resulting emissions does not exceed the set threshold, so that efforts to control air pollution at the Nusa Penida PLTD Bali comply with the requirements in PROPER. Every month routine manual emission monitoring is carried out in collaboration with an external laboratory.

Compliance with air reporting at the Nusa Penida PLTD Bali will support the implementation of good environmental performance because one aspect of environmental management is controlling air pollution. Based on these data it can be concluded that the Nusa Penida PLTD has met the blue color assessment criteria because it has made efforts to comply with reported data.

### ***Efforts to Adhere to Quality Standards***

The results of air quality standards are an important element for the assessment which will affect the PROPER rating. Compliance with air quality standards will result in environmental performance for the company. According to data from the Nusa Penida Bali PLTD report, concluded that compliance with emission quality standards has so far been carried out properly and in accordance with PROPER air quality standards and related regulations. PLTD Nusa Penida Bali has made efforts to produce good environmental performance in terms of controlling air pollution in the company. Air pollution control is one of the efforts to reduce environmental problems that occur, so that there are no violations of the law.

PLTD Nusa Penida Bali has succeeded in carrying out the main function of environmental performance, because from the results of the observation report it was concluded that the PLTD Nusa Penida Bali does not pollute the air. Laboratory tests that have been carried out by the Nusa Penida Bali PLTD show that the results of the emission quality standard laboratory tests obtained are good, so that the Nusa Penida PLTD has met the blue assessment criteria because it has made efforts to comply with quality standards.

### ***Compliance Efforts with Technical Provisions***

Efforts to comply with the technical provisions have been implemented at the Nusa Penida Bali PLTD. This effort serves to provide direction for air technical implementation so that it can run according to procedures and not cause problems that could impact the plant's

operational equipment. The results of interviews conducted with Unit Managers and Operations Supervisors can be concluded that air technical implementation efforts are in accordance with the PROPER implemented so that potential problems that will arise can be resolved. Researchers also received information that efforts to apply sanctions or fines are part of the consequences implemented to improve compliance with air technical provisions in the Nusa Penida Bali PLTD.

Based on this data, it can be concluded that the Nusa Penida PLTD has met the blue assessment criteria because it has made efforts to comply with technical provisions.

#### IV. CONCLUSION

Based on the results of the research and discussion regarding the management of OHS and the Environment in order to achieve the blue proper target of PLTD Nusa Penida, it can be concluded that the application of PROPER in environmental performance at PLTD Nusa Penida Bali is quite good. Of the air pollution control efforts that have been carried out during the 2019-2023 period, all have experienced success. In terms of improving the performance of air pollution control, it is also capable of monitoring emissions tests every month by an external laboratory. Lab test results have always been below the maximum limit.

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