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Analysis of Work Environment Management in Supporting User Safety and Comfort at Duren Kalibata Station

Uci Sulandari¹, Rizky Ahmad Sayuti², Lungguh Budi Prabowo³, Fikri Al Ghifari Rozi⁴

¹Occupational Health and Safety, Binawan University Jakarta, Uci.sulandri@binawan.ac.id

²Occupational Health and Safety, Binawan University Jakarta.

³Occupational Health and Safety, Binawan University Jakarta.

⁴Occupational Health and Safety, Binawan University Jakarta.

Corresponding Author: Uci.sulandri@binawan.ac.id¹

Abstract: Duren Kalibata Station is a public transportation facility with high operational activity, potentially creating various work environment risks which can impact user safety and comfort. Proper work environment management is necessary to minimize potential hazard and support a safe and orderly station environment. This research aimed to analyze work environment management at Duren Kalibata Station to support safety aspect. The method used was descriptive qualitative through direct observation, interview, and documentation study. The results indicated that work environment management at Duren Kalibata Station included cleanliness management, waste control, public facility arrangement, and the implementation of safety signs and facilities. Overall, work environment management had been quite successful, but several aspects needed improving, such as consistent station area cleanliness and optimization of safety support facilities. It was expected that the results of this research were able to provide evaluation material and recommendations for management in improving work environment management to support safety at Duren Kalibata Station.

Keyword: Work Environment Management, Safety, Railway Station, Duren Kalibata Station

INTRODUCTION

Rail transport is a mode of public transportation which plays an important role in supporting urban mobility. Train stations, as hubs of passenger service, experience high levels of activity, necessitating proper work environment management to create a safe, comfortable, and orderly environment. A poorly managed work environment can pose various potential hazards, both for workers and users of transportation services.

Duren Kalibata Station is one of the busiest stations, especially during rush hour. This heavy operational activity has the potential to create environmental issues, such as garbage accumulation, suboptimal hygiene, poorly designed facility layouts, and potential hazards due to overcrowding. These conditions can affect the safety and comfort of station users if not managed effectively.

Work environment management is a crucial step in supporting safety in station area. This includes cleanliness, waste and garbage management, public facility planning, safety signage,

and infrastructure maintenance. Implementing good work environment management is expected to reduce the risk of accidents and create a safer and more comfortable station environment.

Based on this description, this study was conducted to analyze the work environment management at Duren Kalibata Station to support safety. The results were expected to provide an overview of the current work environment management conditions and serve as evaluation material and recommendations for management in improving the quality of the work environment at Duren Kalibata Station.

METHOD

This research used a qualitative descriptive method to describe and analyze work environment management to support safety at Duren Kalibata Station. This approach was selected because the research focused on understanding work environment conditions directly based on facts on the ground. The research was conducted at Duren Kalibata Station. The research was conducted over a specific period, consistent with field observation activities. The research object was work environment management, including environmental cleanliness, waste management, public facility arrangement, and the availability and condition of safety facilities in the station area. The data were collected through direct observation, interview, and documentation study. The observation was conducted to assess the condition of the work environment and its management implementation in the station area. The interview was conducted with relevant station officers to obtain information regarding the work environment management system implemented. The documentation study was conducted by reviewing supporting documents, such as work procedures, internal regulations, and documentation of environmental management activities. The data analysis was conducted descriptively, by grouping and interpreting data obtained from observations, interviews, and documentation. The analyzed data was then presented in narrative form to provide an overview of work environment management condition at Duren Kalibata Station and its relationship to support safety.

RESULT AND DISCUSSION

Based on the identification of environmental aspects and impacts at Duren Kalibata Station, 10 key activities were identified that had the potential to impact the environment. These activities included train operations, passenger activities, station cleanliness, electricity and water usage, generator operations, Micro, Small, and Medium Enterprises (MSME) activities, vehicle traffic, facility maintenance, and fire emergencies.

The assessment results showed that the most dominant environmental aspects came from train operational exhaust emissions, domestic liquid waste, and fire emergencies, each with a total risk score of 12 and 10, respectively, categorizing them as significant environmental aspects. These aspects had the potential to cause air and water pollution if not managed properly.

Furthermore, several activities, such as generator operation and facility maintenance, also showed a moderate risk score with a total score of 8, due to emissions, noise, and the potential for light hazardous waste. Other activities, such as electricity use, water use, Micro, Small, and Medium Enterprises (MSME) activities, and vehicle traffic, had relatively lower risk scores, but it still needed controlling to prevent environmental degradation.

No.	Activity/Product/Service	Aspect Number	Environmental Aspect (Type of Waste)	Operational Condition (N/Ab/E)	Effect on Environment	Status (E/R)	Legal Requirement (Y/T)	Severity (1-5)	Possibility (1-5)	Total Value (Severity × Possibility)	Significant Aspect (Y/T)	Control Action Object Determination	Number of Control Action Object	Operational Control
1	Train Operational Activity	N	Exhaust Emission	N	Air Pollution	R	Y	4	3	12	Y	Y	1	Routine Facility Maintenance
2	Passenger Activity	N	Domestic Waste	N	Garbage Accumulation	E	T	3	3	9	Y	T	0	Waste Sorting & Transportation
3	Station Cleanliness	N	Domestic Liquid Waste	N	Water Pollution	R	Y	4	3	12	Y	Y	2	Sewage System and Wastewater Treatment Plant
4	Electricity Usage	N	Energy Consumption	N	Environmental Deterioration	E	T	3	3	9	Y	T	0	Energy Efficiency
5	Water Usage	N	Excessive Water Consumption	N	Decrease in Water Availability	E	T	3	2	6	T	T	0	Water Saving Program
6	Generator Operation	Ab	Emission & Noise	Ab	Air Pollution & Noise	R	Y	4	2	8	Y	Y	3	Generator Maintenance
7	MSME Activity	N	Garbage & Liquid Waste	N	Environmental Pollution	E	T	3	3	9	Y	T	0	Tenant Supervision
8	Vehicle Traffic	N	Vehicle Emission	N	Quality Decline	E	T	3	2	6	T	T	0	Traffic Management
9	Facility Maintenance	N	Light Hazardous and Toxic Waste	N	Land Pollution	R	Y	4	2	8	Y	Y	4	Licensed Hazardous and Toxic Waste Temporary Storage Site
10	Fire Emergency Condition	E	Smoke & Fire Residue	E	Air Pollution	R	Y	5	2	10	Y	Y	5	Fire Extinguisher & Emergency Fire Operating Procedures

Source : Research Result

Table 1. Identification of Environmental Aspects and Impacts at Duren Kalibata Station

Environmental aspect deemed significant was then designated as Control Action Object. Based on the identification result table, several activities required Control Action Object determination, including train operations, station cleanliness, generator operation, facility maintenance, and fire emergencies. Control Action Object determination is based on severity, likelihood of impact, and the existence of legal requirements that must be fulfilled.

Operational controls implemented at Duren Kalibata Station included routine maintenance of train facilities, sewage system management and wastewater treatment plant management, generator maintenance, provision of a licensed hazardous and toxic waste disposal site, provision of fire extinguisher and emergency fire operating procedures. These control measures aimed to minimize the potential for environmental pollution and support the safety and comfort of station users.

Meanwhile, environmental aspects which were not considered significant still required management through preventative measures, such as energy efficiency, water conservation program, waste sorting and transportation, and supervision of Micro, Small, and Medium Enterprises (MSME) tenants. Consistent implementation of work environment management was expected to improve the quality of the station environment and reduce the potential for negative impacts on the surrounding environment.

CONCLUSION

Based on the result and discussion on work environment management at Duren Kalibata Station, it could be concluded that various operational activities had the potential to impact the environment. These activities included train operations, passenger activities, station cleanliness, energy and water use, generator operations, Micro, Small, and Medium Enterprises (MSME) activities, facility maintenance, and fire emergencies.

The results of the environmental identification and evaluation indicated that several aspects were significant, particularly those related to exhaust emissions, domestic liquid waste, light hazardous waste, and fire emergencies. These aspects carried a moderate to high risk and therefore require planned and ongoing operational control.

The work environment management at Duren Kalibata Station had been implemented quite well through various control efforts, such as routine maintenance of facilities, management of waste channels and wastewater treatment plants (WWTP), provision of licensed hazardous and toxic waste disposal sites (TPS), and implementation of fire

extinguishers (APAR) and emergency standard operating procedure (SOP). However, there was still a need to improve the consistency of environmental control implementation, particularly in waste management, efficient use of energy and water, and supervision of supporting activities in the station area. An optimal implementation of work environment management was expected to support safety, comfort, and environmental sustainability at Duren Kalibata Station.

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