Analysis of Occupational Health and Safety (OHS) Implementation Procedures in the Apron Movement Control (AMC) Unit at the Public Service Agency of Juwata Tarakan Class I Main Airport Operator

Dinda Miranda Listiantika[1], Nyaris Pambudiyatno[2], Dimas Arya[3]

Aviation Polytechnic of Surabaya, Jemur Andayani I/73 Wonocolo, Surabaya, East Java, Indonesia, 602366

Email: mirandadin90@gmail.com

ABSTRACT

Occupational Health and Safety (OHS) is a crucial aspect of aviation operations, particularly in apron areas that carry a high level of risk. This study aims to analyze the implementation procedures of OHS at the Apron Movement Control (AMC) Unit of Juwata Airport, Tarakan, and to evaluate their effectiveness in creating a safe working environment.This research employs a descriptive qualitative method using data collection techniques such as observation, interviews, and documentation. The findings indicate that, in general, OHS procedures have been implemented by AMC personnel; however, the implementation has not been optimal. Violations in the use of Personal Protective Equipment (PPE), limited safety facilities, and inadequate supervision of hazards such as Foreign Object Debris (FOD) were still found. Although personnel awareness and understanding of OHS are considered fairly good, they are not yet evenly distributed. Efforts to improve discipline, such as training, regular briefings, and the imposition of sanctions, have been carried out, but supervision and evaluation still need to be strengthened.This study recommends increasing the quantity and equitable distribution of PPE, continuous training programs, and strengthening a culture of safety in the workplace. With appropriate short-term and long-term strategies, the implementation of OHS in the AMC Unit is expected to become more effective and consistent.

Keywords: *Occupational Health and Safety (OHS), Apron Movement Control (AMC), Airport, Procedures, Personal Protective Equipment (PPE)*

1. INTRODUCTION

Airports are complex operational Airports represent highly complex environments that require stringent safety protocols to minimize risks and ensure operational continuity. Juwata Tarakan International Airport, managed under the Ministry of Transportation of Indonesia, plays a vital role in connecting the region of North Kalimantan. Within its operational structure, the Apron Movement Control (AMC) unit carries responsibility for monitoring and controlling aircraft, vehicles, and personnel movement in the apron area.

The apron, characterized by high traffic density and direct interaction with aircraft engines, ground support equipment, and personnel, is a critical risk zone. Failure to implement proper OHS measures in this environment may lead to accidents, delays, or regulatory violations. In accordance with Indonesian regulations, such as the Minister of Manpower Regulation No. 5 of 2018, and international standards from the International Civil Aviation Organization (ICAO), AMC personnel are required to comply with strict safety procedures.

However, in practice, challenges persist. Previous reports indicate frequent issues such as inconsistent PPE usage, fatigue among ground personnel, and lapses in supervision. This research focuses on analyzing the OHS implementation procedures at AMC Juwata Tarakan, with three primary objectives:

1. Identifying the level of compliance with OHS procedures in AMC operations.
2. Understanding barriers to full compliance.
3. Providing actionable recommendations for improvement.

2. LITERATURE REVIEW

2.1 Occupational Health and Safety in Aviation

OHS is defined as the discipline concerned with protecting the health, safety, and welfare of people at work. In aviation, OHS involves managing risks from various hazards, including moving aircraft, ground support equipment, and environmental factors.

2.2 Regulatory Framework

In Indonesia, OHS is regulated by Law No. 1 of 1970 on Occupational Safety and the Minister of Manpower Regulation No. 5 of 2018. Internationally, the International Civil Aviation Organization (ICAO) sets standards through its Safety Management Manual (SMM).

2.3 Apron Movement Control (AMC)

AMC is tasked with ensuring safe and efficient aircraft parking, pushback, and coordination with ground handling units. According to ICAO Annex 14, apron operations must be managed to minimize risks of collision and ground incidents.

2.4 Previous Studies

Research by Wibowo (2021) emphasizes that PPE availability, training, and supervision are key to effective OHS. Rahmadani (2020) found that safety culture significantly influences compliance levels among apron personnel.

2.5 Objectives and Benefits of OHS

According to Sutrisno (2016), effective OHS implementation enhances productivity, reduces legal risks, and improves organizational reputation. Mathis & Jackson (2006) highlight three primary objectives: accident prevention, provision of safe working conditions, and enhancement of worker well-being.

2.6 Risk Management in Aviation OHS

The "Domino Theory" (Heinrich, 1931) suggests accidents occur due to sequential unsafe conditions and behaviors. ISO 31000 introduces systematic risk management through identification, assessment, control, monitoring, and continuous improvement.

3. METHODOLOGY

3.1 RESEARCH DESIGN

The author carries out several stages in determining the research design of this Final Project. The following is the research design used.

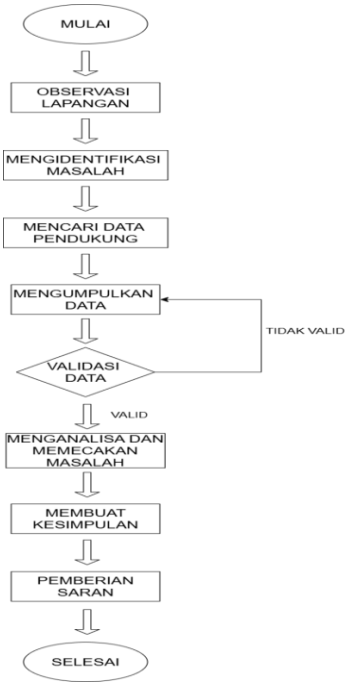

Figure 1. Research Desig

This approach was chosen to analyze the implementation procedures for Occupational Health and Safety (K3) at the Apron Movement Control (AMC) Unit at the Public Service Agency of the Class I Utama Juwata Tarakan Airport Operator Unit more comprehensively.

3.2 Data Collection Techniques

1. Observation:Direct monitoring of AMC operations to identify compliance and deviations from SOPs.
2. Interviews: Conducted with the Head of AMC, AMC personnel, and the Head of Aviation Security.
3. Documentation Review: Examination of SOPs, safety equipment inventories, and incident reports.

4. Instrument Validation: Observation and interview sheets validated by academic supervisors and AMC supervisors.

3.3 Data Analysis:

Data were analyzed using thematic coding, comparing observed practices with SOPs and regulations to identify gaps and improvement opportunities.

4. RESULTS

4.1 Observation Findings

1. PPE usage was inconsistent; some personnel wore only safety vests without helmets or ear protection.
2. Use of mobile phones in restricted areas was observed.
3. Resting in non-designated areas near the airside was noted.

4.2 Interview Insights

1. Personnel are aware of OHS rules but cited shortages of PPE and time pressures as barriers.
2. Supervisors acknowledged gaps in monitoring due to manpower limitations.
3. Training programs existed but were not evenly distributed among staff.

4.3 Documentation Review

SOPs mandated complete PPE use and FOD inspections, but enforcement records were incomplete and Safety facility inventories revealed shortages of earmuffs and helmets compared to staff numbers.

5. Discussion

The findings reveal a discrepancy between formal OHS procedures and practical implementation. Despite regulatory frameworks, compliance is hindered by resource limitations, inconsistent supervision, and workplace culture.

- PPE Compliance: Echoing Wibowo (2021), the availability and consistent use of PPE are crucial. The lack of helmets and ear protection raises significant risks in apron operations.
- Supervision and Discipline: Insufficient monitoring allows unsafe practices (e.g., phone use in the apron). Strengthening supervisory roles and sanctions is essential.
- Safety Culture: While awareness exists, discipline varies. According to Reason (1997), without a strong reporting and just culture, personnel hesitate to report violations or hazards.
- Fatigue and Human Factors: Observed instances of rest in airside areas reflect fatigue issues, aligning with Tarwaka (2014), who notes fatigue decreases vigilance and increases risks.
- Gap with Regulations: Indonesian and ICAO standards are clear, yet enforcement lags. This suggests the need for both short-

term interventions (PPE provision, stricter monitoring) and long-term strategies (safety culture strengthening, continuous training).

6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

OHS procedures at the AMC Unit of Juwata Tarakan Airport are formally established but not optimally implemented. Challenges include incomplete PPE usage, insufficient safety facilities, inadequate supervision, and uneven personnel awareness. While training and sanctions exist, they require reinforcement through systematic monitoring.

6.2 Recommendations

1. PPE Provision**:** Increase quantity and ensure equitable distribution.
2. Training Programs: Implement continuous and mandatory OHS training for all AMC staff.
3. Safety Culture Development: Promote reporting, just, and learning culture to strengthen compliance.
4. Enhanced Supervision: Allocate more supervisors and enforce disciplinary measures consistently.
5. Fatigue Management: Establish rest policies and proper rest facilities to prevent unsafe behavior.
6. Technology Integration: Explore digital monitoring systems (e.g., CCTV, real-time compliance apps) to support supervision.

6.3 Future Research

Future studies should conduct comparative analysis across multiple airports and evaluate the effectiveness of technology-based monitoring in improving OHS compliance.

7. REFERENCES

[1] Amiruddin. (2018). Keselamatan dan Kesehatan Kerja di Lingkungan Bandara. Jakarta: Prenadamedia Group.

[2] Bagaskara. (2023, Mei 5). ISO 45001: Sistem Manajemen Kesehatan dan Keselamatan Kerja. Mutu International. [3] C. Baier, J-P. Katoen, Principles of Model Checking, MIT Press, 2008.

[4] Haryanto. (2021). Analisis Penerapan K3 di Wilayah Apron Bandara. Yogyakarta: Deepublish.

[5] Inayah, N., Nursyaf, P. C., & Kardi. (2024). Analisis pengaruh kinerja Unit Apron Movement Control terhadap tingkat keselamatan dan keamanan di daerah sisi udara. Gudang Jurnal Multidisiplin Ilmu, 2(7), 111–115.

[6] International Civil Aviation Organization. (2018). Annex 14 to the Convention on International Civil Aviation: Volume I – Aerodrome Design and Operations (8th ed.). Montréal, Canada: ICAO.

[7] Kementerian Perhubungan Republik Indonesia. (2015). Peraturan Menteri Perhubungan Republik Indonesia Nomor

PM 21 Tahun 2015 tentang Standar Keselamatan Penerbangan. Jakarta: Kementerian Perhubungan.

[8] Kementerian Ketenagakerjaan Republik Indonesia. (2016). Peraturan Menteri Ketenagakerjaan Republik Indonesia Nomor 5 Tahun 2016 tentang Sistem Manajemen Keselamatan dan Kesehatan Kerja (SMK3).

[9] Kementerian Ketenagakerjaan Republik Indonesia. (2018). Peraturan Menteri Ketenagakerjaan Republik Indonesia Nomor 5 Tahun 2018 tentang Keselamatan dan Kesehatan Kerja Lingkungan Kerja. Jakarta: Kementerian Ketenagakerjaan.

[10] Mutu International. (2023, May 5). ISO 45001: Sistem Manajemen Kesehatan dan Keselamatan Kerja.

[11] Pemerintah Indonesia. (2018). Tentang Keselamatan Dan Kesehatan Kerja Lingkungan Kerja. Peraturan Menteri Ketenagakerjaan Republik Indonesia No. 5 Tahun 2018, 5, 11.

[12] Reason, J. (1997). Managing the Risks of Organizational Accidents. Hampshire: Ashgate Publishing..

[13] Sulistyarini, N., & Wahyuni, I. (2017). Prinsip-prinsip keselamatan kerja dan penerapannya. Jurnal Keselamatan Kerja, 5(2), 45–53.

[14] Sutalaksana, I. Z., Zakiyah, S. Z. Z., & Widyanti, A. (2019). Linking basic human values, risk perception, risk behavior and accident rates: The road to occupational safety. International Journal of Technology, 10(5), 918–929.

[15] Wibowo, A., & Santoso, J. T. (2024). Kesehatan dan keselamatan kerja (K3).Semarang: Penulis. ISBN 978-623-8642-24-3.

[16] Sulistyarini, N., & Wahyuni, I. (2017). Prinsip-prinsip keselamatan kerja dan penerapannya. Jurnal Keselamatan Kerja, 5(2), 45–53.