

AERODROME SAFETY & HEALTH ISSUES IN AIRPORT OPERATION INDUSTRY



*Ir. Tajul Ariffin bin
Mohamed Nori*

Ensuring safety and health at the aerodrome is not exclusive to the operators but should also be of paramount importance to all other support staff including contractors, suppliers, service providers and any other person who might be affected by airport operations. In this article, we outline several accident cases in Malaysian airports which have been reported to the Department of Occupational Safety and Health (DOSH). Most involved near-miss incidents but in some cases, not only was the safety and health of the workers compromised but there was serious body injury and even fatalities.

CASE 1: COLLISION ON THE RUNWAY

In March 2019, a private aircraft collided with an airport engineering ground service vehicle on the runway. The worker who was supervising maintenance work on the runway at the time, was critically injured and passed away



*Part of the crashed vehicle on the left of the aircraft wing.
– Picture courtesy of New Straits Times*

after two days of intensive medical care at the hospital. However, none of the passengers and the cabin crew of the aircraft was injured. The initial finding showed that the service vehicle remained static on the runway and was in conflict with the landing aircraft. This case was further investigated by the Civil Aviation Authority of Malaysia (CAAM). Such runway incursions can be avoided if all measures as specified in Airport Standards Directive 106 (ASD 106) by CAAM, are fully adhered to.

CASE 2: GROUND SUPPORT EQUIPMENT – FATALITY CASE

In 2017, a senior technician was caught between equipment and its chassis frame while carrying out authorised repair work on a breakdown belt loader. The deceased had over 15 years of work experience. The mishap happened because he neglected to use the vertical stand support which could have prevented the fall of the loader conveyor during the hydraulic plunger repair work. Investigations revealed that the conveyor was raised using an overhead crane in the workshop to allow him to go underneath to do the repairs. However, when the task was completed, the victim cut the cargo-belt that was holding up the conveyor and sling hook while still standing inside the equipment. The heavy loader immediately pushed his head and chest downwards to the chassis frame. It was found that there was no risk assessment of the work and that the technician was not made aware that the support component was the key safeguard to prevent entrapment under the conveyor. It should be reminded that risk management control should always be considered as a precaution and the use of safety equipment in any work activity should always be emphasised. Sound design, operation and operator training will prevent future occurrences.



The belt loader is essential for the transferring of luggage.
Image courtesy of pixabay.com

CASE 3: ENVIRONMENTAL HAZARDS

Lightning occurrence is unpredictable and can be a serious potential hazard for those who work in open environments. In 2017, an airport landscape contractor was struck and killed by lightning while on the job. The supervisor who witnessed the event, stated that the contractor was aware of the changing weather conditions and that there were signs of a thunderstorm. Unfortunately, lightning struck even as the workers were moving to a safe area. In this incident, rather than just an administrative reminder to the workers, prevention measures could be taken to avoid such mishaps. The landscape manager or supervisor should check the weather forecast before carrying out planned work activities. Similarly, airport safety managers should consider such measures for all ground personnel working in the airfield.



Airport landscaping workers have a high risk of being struck by lightning.
Image courtesy of pixabay.com

CASE 4: HIT BY TARMAC TRUCK ON TAXIWAY

In 2018, a worker died after he was hit by a tarmac truck in the aircraft taxiway area when carrying out surface maintenance work near the airport terminal. He was

cleaning up spilled gravel premix at the scene when the tarmac tipper truck at the pavement area suddenly pulled back and crushed the victim. However, despite being given immediate treatment at the hospital, he died of serious injuries.

In this incident, it was learnt that no risk assessments and its associated hazards were conducted. Deficiencies in the procedure can be improved if proper site coordination and supervision are not taken for granted.



Working around construction machinery is a hazard on the airport runway.
Image courtesy of pixabay.com

CASE 5: ACCIDENTS INVOLVING TOWING TRACTORS

Towing tractors or tugs are commonly used to tow dollies such as baggage unit loaders, courier items, mail bags, carton boxes, flight cargo units, luggage etc., between the aircrafts and the terminal or cargo sorting area.

There were many incidences reported involving tugs from 2016 to 2018. In most cases, loss of tug control and crashing into concrete barriers resulted in workers suffering serious leg injuries. Operator competency is required for



The main threat when handling a towing tractor is the load it carries.
Image courtesy of pixabay.com

the safe handling of such powered machinery to avoid such incidences. The tug operator should note that pulling or towing a larger number of dollies would require a greater stopping distance. Special precautions on vehicle speed control must be considered when handling the tug in the ramp or gradient area. Training and competency on defensive driving should be made mandatory for these operators to prevent such incidents.

CONCLUSION

The above cases are but just a few of such accidents. There have been many more occurrences in airports around the country and these significantly impact the effectiveness of airport management in relation to the welfare, safety and health of workers.

Other occupational health issues related to aircraft maintenance personnel have also been frequently reported, especially when in compensation claims for workers. Such accidents should be prevented proactively.

Unknown to many, airport safety managers are liable for work-related accidents at the airport, even if the workers involved are not under their supervision. Therefore, airport safety managers should take accountability on the duty of care and safety of their employees and the aerodrome operators.

On the other hand, airport subsidiaries or contractors should consider providing training on occupational safety and health as well as risk management for workers. Risk assessment for every work activity to mitigate and control any residual risk associated is crucial and work should not proceed if safety measures taken are inadequate.

Airport safety assurance can also be achieved through the effectiveness of Safety Management System (SMS) programmes such as self-auditing, external auditing or safety oversight.

Besides, adoption of the new standard on Occupational Health & Safety (OH&S) management system ISO 45001:2018 broadens the perspective on risk management as compared to the previous OH&S management system, OHSAS 18001:2007.

The new framework no longer has optional but organisational obligatory requirements which prevent the occurrence of work-related accidents, especially for those involved in aerodromes such as workers, the management team, contractors, suppliers, customers, community consumers, authority, special interest group and legislation. ■

REFERENCES

- [1] Airport Standards Directive (ASD) 106: Runway Safety Programme of Civil Aviation Authority of Malaysia, CAAM Standard.
- [2] Subang airport worker tarmac accident dies, New Straits Time, 19 March 2019.
- [3] AC 150/5200-37, Advisory circular: Introduction to Safety Management System (SMS) for Airport Operators, FAA, U.S Department of Transport.
- [4] Worker dies after lightning strike in Sepang, The Star online, 25 April 2017.
- [5] ISO 45001. Occupational Health & Safety Management System.

Author's Biodata

Ir. Tajul Ariffin bin Mohamed Nori, a co-opt member of Mechanical Engineering Technical Division, IEM, is a Factory and Machinery Inspector at the Department of Occupational Safety & Health Malaysia.