

Safe drone usage on mines

Drones are an increasing familiar feature on the mining landscape, therefore safety officers need to know the laws and regulations governing the safe use of these machines.



As a result, the Aggregate and Sand Producers Association of Southern Africa (Aspasa) is educating its members with a series of talks presented at its regional meetings held throughout the country recently. On the agenda was some of the most pressing requirements of air law (Civil Aviation Regulations), weather conditions (meteorology), navigation and airspace rules, safety assessments, and drone operations, as well as more general requirements to do with the human factor such as workforce awareness of drones, pilot characteristics, training programmes for safety officers and communication from civil aviation to the industry.

Mandy Tebbit of Cranfield Aviation Training focused on the safety officer drone awareness (Soda) training explained that safety officers in non-aviation environments need an understanding of aviation regulations, operational challenges, risks, threats, considerations and site assessment criteria in order to effectively fly drones on mining company property.

Technical requirements

“Safety officers must be aware of four requirements: air law as set out by Civil Aviation Regulations followed by the weather conditions (meteorology), what the navigation and air spaces looks like at their particular mine and a safety assessment of that day’s operations.

“Starting a drone’s workday, for example compiling geological information, mapping vegetation or stockpiling measurements requires the pilot to be aware of the operations pertaining to drones as set out by Civil Aviation Regulations. Examples include how to fly drones in the vicinity of private property or structures or in the vicinity of public roads or night-operations and the pilot’s duties while flying the drone.

“Weather conditions are important, not only for the physical safety of the drone but will influence the operation of the drone so safety officers (pilots) are given a thorough grounding in meteorology, as well as how to navigate drones in the available airspaces of a high-risk mining environment. Having taken all the above into consideration, a safety assessment can then be made to decide whether to fly the drone or not.

Human factor requirements

“Pilots also need to undergo training, specifically the Soda 1 and 2 training programmes as the human factor in flying a drone in a high-risk environment is important, not only to pilots but to general mine employees as well.

“Human error reduction awareness in the industry must evolve to mind-state management. This is a concept that can be subdivided into various areas of a mine’s functioning such as how the culture, leadership and teamwork aspects of the mine will influence drone operations, the communication and co-ordination history of mine operations, as well as the decision-making and risk assessment culture of a particular mine.

“The personalities of pilots are equally important. They need diverse abilities such as concentration, accuracy of flying and having a positive mindset, among others, to successfully fly a drone on a mine.

“Finally, pilots must be aware of official communications from civil aviation to the industry such as the Aeronautical Information Publications (Aips) and Notices to Airmen (Notams),” Tebbit said.

Teamwork required

If a workforce is not committed to compliance, if they are tired or stressed, and if they fear dismissal, they are going to make mistakes or cover them up. However, a positive, compliant workforce should be team orientated, communicate with one another, have innovative briefings and leadership and maintain situational awareness of drone operations and safety in order to use this type of technology successfully.

For more, visit: <https://www.bizcommunity.com>