



DRONE INCIDENTS

Description of Event

Risks associated with drone use such as malfunctions mid-flight, impact with assets, distractions to road users etc.

Population at Risk

Construction and Maintenance Workers, Inspectors and Members of Public (MoP).

Hazardous Activity and Residual Risk Description

- Drones could malfunction mid-flight which exposes MoP and workers to the potential of being struck by a drone falling from considerable height.
- MoP and workers being struck by a drone has an assessed residual risk of a likely likelihood of moderate harm.
- If drones are visible from the carriageway, they may pose a distraction to drivers on the network.

Potential consequences of this event

- A collision between a drone and a person could result in injury.
- A risk of a serious accident or damaged assets should a malfunction occur close to structures or the road network.
- Operator may have to recover fallen drone from a hazardous location.
- The residual risk requires drone operatives to ensure equipment is maintained to reduce risk of malfunction mid-flight.



Photo of malfunctioned surveillance drone

Safety Hub Alert Database

- Filtering by text “drone” in the subject description category has 7 alerts, including issues relating to collisions with assets and drone malfunctions.

Potential Mitigation Measures



Design

- Designers should follow GG 954 and indicate safe flight zones by referring to shapefiles.
- Designers to select robust equipment when specifying drones to be used during the inspection or survey of highway infrastructure.
- Designer to include risk of drones colliding with high voltage overhead cables in the designer’s risk assessment.

Construction

- Always risk assess the use of drones for survey work where it is also practical to inspect assets without them.
- Where drones are to be used to assist in survey activities, guidance should be sought to ensure that the proposed models are not currently under review by the National Highways Governance Hub (DGH).

Maintenance / Operations

- Drones should be checked for compatibility with existing software systems and functionality prior to being used for surveillance.

Further Guidance and Reading

- [GG104 – Requirements for safety risk assessment](#)
- [GG 954 – Drones operations](#)



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LEAN

Alternative Plant

Improved end user benefits

Reduced Reportable Accidents