

Safety of UAS operations near high voltage power networks

Picture



Background

TenneT is currently inspecting its high-voltage power network visually. It is expected that the inspection costs can be significantly reduced if drones equipped with a camera of sufficiently high resolution are used. However, drone operations for inspection also entail risks, which means that a safety analysis must be carried out and the Human Environment and Transport Inspectorate (ILT) must give permission. In addition, TenneT is also confronted with drone operators – including owners of land nearby – who want to fly in the vicinity of the high-voltage power network for other reasons. These drone operations have to adhere to the new European drone regulations that have recently become applicable. Guidelines for conducting a risk assessment were published by EASA in 2020.

Goals

The main objective of the project is to draw up a policy and an associated procedure/workflow for the approval of, and the handling of, safe drone flights near the TenneT high-voltage network. This should take into account future regulations, role of ILT and the necessary safety requirements. Work includes:

- Analysis of the relevant parts of the new European drone regulations;
- Conduct of a safety study for inspection of high-voltage power networks with drones;
- Organization of a workshop and conduct of a survey on safe drone operations;
- Advise on policy making for dealing with drones nearby high voltage power networks.

Utilisation

The safety study, conducted with a method published by EASA, has provided a set safety requirements and conditions to safely conduct drone inspections of the high-voltage power network. Drone operators can include this in their request to ILT for permission. The study can be used by TenneT to formulate internal policies and procedures for handling drone flights in the vicinity of its vital/critical infrastructure. This concerns drone flights by operators who carry out inspections on behalf of TenneT and by unauthorized persons who, for other reasons, fly in the vicinity of high-voltage lines and masts.