

PE01804/M

Trax International Ltd submission of 30 October 2020

Trax International Ltd are consultants specialising in airspace and Air Traffic Management (ATM) modernisation. In recent years we have worked alongside aviation industry organisations including the Civil Aviation Authority (CAA), NATS, Heathrow, Gatwick, Luton, Southampton and Luton Airports and with HIAL to deliver airspace and ATM modernisation projects. Our team has many years of practical experience in the maintenance, improvement and modernisation of terminal airspace, air traffic control and aircraft arrival and departure procedures.

The strategy for airspace modernisation is not unique to HIAL or indeed the UK. The UK's plans to modernise airspace and ATM are closely linked to the wider multi-state programme, known as the Single European Sky (SES). The UK aviation sector also works closely with the International Civil Aviation Organisation (ICAO) to ensure that the approach to modernisation is harmonised globally. The European Commission launched the SES initiative in 1999 and it now provides the overarching framework to modernise the airspace and air transport network across Europe. The UK Airspace Modernisation Strategy was published in 2018, setting out a shared objective between the CAA and the Government for modernising airspace in all regions of the UK.

The concerns raised by Petition PE01804 to halt the HIAL Air Traffic Management Strategy cover a range of issues, from safety, economic, and quality of service impacts.

Our response to the Petition addresses the safety concerns raised regarding a remote air traffic control tower, such as comms/equipment failures, operational limits of cameras, maintenance of cameras, loss of runway availability, monitoring of and changing MET conditions in remote locations and the proximity of military ranges/danger areas to some of the airports.

Digital control towers offer a number of potential safety improvements. They can enhance a controller's visual awareness, as they are able to overlay information such as call-signs, speed and altitude on to aircraft. Images on the screens can also be adjusted so that controllers are able to see aircraft better in difficult lighting conditions, or even zoom in on specific areas.

Based on similar projects across Europe, Aerodrome Air Traffic Services (ATS) delivered via a remote tower are facilitated by the streaming a real time images into a dedicated operations room, providing the view from an assembly of fixed and moveable high definition digital video cameras situated at the remotely controlled aerodrome. This visual situational awareness for the controller or flight information service operator can be supplemented by a range of environmental sensors and microphones capturing sound and meteorological or other operational data.

In our view HIAL controllers are not required to operate in a fundamentally different way. Although they will be based at a different location, with newer equipment, the process of monitoring aircraft movements and directing them safely and efficiently through the arrival and departure phases of flight will not change. HIAL's strategy intends to provide controllers with new tools that are expected to further enhance the safety and efficiency.

The CAA will play a key role in the safety assurance and validation of the changes proposed in HIAL's strategy. Any remote aerodrome ATS must be approved by the CAA. In their policy documentation they lay out strict guidelines which must be adhered to.

With regards to the necessary equipment for the remote towers, there are a variety of equipage levels, which cover basic and enhanced levels and multiple or single aerodrome operations. The equipage levels include features such as, visual presentation and a zoom function (like using binoculars in a conventional tower). In the unlikely event that all the cameras fail, or that both of the independent video data feeds drop out, the team will revert to operating under Low Visibility Procedures as they do when in low cloud or fog, using voice communication and radar. This will slow things down, but it's a normal part of ATC procedures and all very safe.

ATS surveillance (air and/or ground radar presentation) can also be included depending on the traffic level and complexity of the airspace/aerodrome layout.

The safety rationale must also address failure modes and mitigations of system failures and either continue to have some form of on-site ATS engineering capability or have a remotely shared resource. If remotely based a system must be established for the maintenance of facilities and for response to failures. Priorities for each facility will need to be produced and robust contingency measures established.

Any project to switch to a remote tower must include arrangement for the continuing provision of ancillary services previously undertaken by ATS staff, e.g. control of grass, aerodrome work in progress and management of emergency resources.

The key point to remember with any aspect of aviation industry modernisation and change is that, there are specific requirements laid out by the regulator. Unsafe operations will not be approved.