

優化航空障礙燈系統

Enhancement of Obstacle Light System

為客戶部門提供安全可靠的服務，一直是機電署堅守的承諾。位於赤鱸角的香港國際機場是全球最繁忙的機場之一，每天飛機起降量超過 1 100 架次。機電署與民航處長期緊密合作，以確保航空安全。為此，我們主動建議在所有航空障礙燈基站加裝不間斷供電系統，避免電源故障對航空障礙燈遠程監察系統造成影響。有關建議獲民航處支持。我們以不影響客戶運作為前提，並在確保現有航空障礙燈系統維持正常運作的情況下，於短短三個月內完成所有安裝工作。客戶部門感謝我們積極推動優化設備的工作，使障礙燈站的停機檢查時間顯著減少。

民航處在赤鱸角機場航道的周邊山嶺上，設置了八座航空障礙燈基站，提示機師飛經附近山嶺時注意飛行安全。機電署設有 24 小時全天候無線電信號系統，實時遠程監控航空障礙燈基站的運作情況。當電源不穩定或中斷時，遠程監察系統的無線電信號便會受到影響或停止，令工程人員不能實時監控航空障礙燈的運作，對航空交通構成風險。我們亦須攀山越嶺到基站作實地檢查，才能確定電源間斷對航空障礙燈系統所造成的影響，並予以跟進。

航空障礙燈基站加裝不間斷供電系統後，可確保在電源出現故障時，航空障礙燈遠程監察系統仍能無間斷地正常運作，把障礙燈的運作數據及時傳回控制中心，讓我們作遠程診斷，以便即時找出故障原因，加快跟進航空障礙燈系統的情況。這樣既能減省不必要的實地檢查所需的人力和時間，亦有助加強航空障礙燈系統的可用性，以保障航空交通安全。



基站安裝不間斷電力供應系統後，可減少前線工作人員進行緊急維修的次數。小圖為航空障礙燈。
The installation of UPS system at the station can reduce the frequency of frontline staff conducting emergency repair. Shown in the circled picture is the obstacle lights.

Providing safe and reliable services to client departments has been a persistent commitment of the EMSD. The Hong Kong International Airport at Chek Lap Kok is one of the busiest airports in the world, with over 1 100 take-offs and landings every day. The EMSD has all along been working closely with the Civil Aviation Department (CAD) in ensuring aviation safety. To this end, we proactively proposed the installation of uninterruptible power supply (UPS) systems at all obstacle light stations (OLS) to prevent the remote monitoring system of obstacle lights from being affected by power supply failure. The proposal was supported by the CAD. All the installation works were completed in just three months on the premise of not affecting our clients' operation and of ensuring that all existing OLS maintained normal operation. Our client departments have expressed appreciation for our efforts in actively promoting facility enhancement, which have significantly reduced the OLS downtime required for inspection.

The CAD deploys eight OLS on mountains near the flight paths of the Chek Lap Kok Airport to alert pilots of flight safety when navigating across the nearby mountains. A 24-hour radio signal system is available at the EMSD to provide real-time and remote monitoring of the operation of the OLS. When the power supply is unstable or interrupted, radio signals of the remote monitoring system will be affected or stopped, preventing engineering personnel from monitoring the real-time operation of the obstacle lights, thus posing risks to aviation safety. It is also necessary for us to make strenuous climbs across the mountains to conduct on-site inspection of the station in order to identify the impact of power interruption on the obstacle light system for follow-up action.

The installation of UPS systems at the OLS can ensure that the remote monitoring system of obstacle lights operates normally in an uninterrupted manner at times of power supply failure, and transmits operational data of the obstacle lights to the control centre in time for remote diagnosis and immediate identification of the reasons for the failure, thereby expediting follow-up work on the obstacle light system. This not only reduces the manpower and time required for making unnecessary on-site inspection, but also enhances availability of the obstacle light system to safeguard aviation safety.



位於赤鱸角機場民航處總部的機電署控制中心，透過遠程監察系統，全天候監控八座航空障礙燈基站的運作情況，可即時找出障礙燈系統出現故障的原因。
The EMSD's control centre in the CAD Headquarters at the Chek Lap Kok Airport monitors the operation of eight OLS round the clock through the remote monitoring system to immediately identify the reasons for any failure of the obstacle light system.