



Manchester Airport

Upgrade of Approach Systems

Supply, Install, Commission

Turnkey Solutions

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Manchester Airport Turnkey Solution

LED Upgrade Approach Lighting

Project Key Facts

Client Name | MAG Group

Location | Manchester Airport - UK

Dates | Jan 2023 - Feb 2024

The project

The primary objective was to upgrade the current runway, approach, and supplementary approach lighting from outdated tungsten halogen fixtures to state-of-the-art LED luminaires. The project aimed to achieve this transformation while ensuring minimal disruption to aircraft operations, a critical consideration given the bustling activity on the runways. Additionally, careful attention was paid to the needs of road users, as the approach system intersected a busy highway.

Implementation Strategy:

In order to successfully achieve the project objectives, a strategic phased approach was adopted to minimize disruption while transitioning from tungsten halogen to LED lighting fixtures. The implementation plan was methodically designed to accommodate the diverse operational needs of the airport.

Daytime & Nighttime Execution:

The project required a balance between daytime and night time operations. Daylight hours were utilized for the installation of runway inset fixtures, conversely, the main approach system was upgraded during quiet night time periods to mitigate any potential disruptions to aircraft movements.

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Sequenced Removal and Installation:

To uphold the integrity of the lighting pattern crucial for safe aircraft approach, the removal and installation of light fixtures were sequenced. Beginning from the threshold and progressing outward along each approach, a systematic approach was employed. This ensured a seamless transition without mixing LED and traditional lights on individual sections, preserving consistency and safety.

Efficiency Optimization:

To maximize the benefits of LED technology, recalibration of the constant current regulators powering the circuits was conducted. This adjustment matched the reduced load of the circuit, enhancing operational efficiency and minimizing energy consumption. Following recalibration, thorough functionality checks were performed from the main air traffic control position, confirming operational compliance.

Nighttime Closure and Operational Availability:

Over a carefully planned span of six nights, the main approach lights were systematically replaced during scheduled nighttime closures. This methodical scheduling ensured minimal disruption to airport operations while swiftly integrating the upgraded LED lighting system. Importantly, the newly installed lights were made immediately available for use during non-closure periods, ensuring uninterrupted airport operations.

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