St Athan Airfield

Design, Supply, Install, Commisison

Turnkey Solutions

AGL infrastucture upgrade - Case study

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St Athan Airfield Design & Install

Case Study - AGL upgrade

Project Key Facts

Client Name | Welsh Government

Location | St Athan Airfield, Vale of Glamorgan, Wales.

Dates | Jun 2019 - Nov 2019

Total Project Value | £550K

St Athan, a former military airbase, is being upgraded to move away from military standards and meet the civil aviation requirements. Using atg airports' airfield ground lighting (AGL) installation team, this phased project to implement the changes for the AGL lighting began.

Runway Guard lights:

With multiple taxiways that cross the runway, it is necessary to ensure that vehicular or aircraft movement in these areas are aware of the entrance to the active runway. It was atg's responsibility to identify the locations that required the guard lights to be installed, and then provide a solution as to how the equipment was to be installed and connected to the power source. The final design solution included on the civils works necessary for the foundations, de-leathalisation of the concrete bases, and an extension of the existing pit and duct system. Future proofing the design was considered to provide spare capacity in the pit and duct system for any future works.

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Echo Taxiway Blue Edge

A complete design and build was the scope of work when looking at the taxiway improvement phase.
New edge lighting was to be installed utilising the IR852T inset fixtures on Echo taxiway. Before the fixtures could be installed, it was necessary to ensure the infrastructure was available to accommodate the equipment, AGL primary cables and also secondary cables. In line with the wig-wag project, a new pit and duct system was designed, by atg airports internal design team, ensuring capacity for future requirements, and then installed. On the completion of these works new AGL cabling and isolating transformers were installed between each light position. There was a requirement for some of the secondary cables to be installed in the concrete pavement. This meant the team had to facilitate this by saw cutting the taxiway and then sealing the cut following installation of the necessary cabling.

Fibre Optic Installation

St Athan airport had recently invested in a new Airfield Lighting Control System (ALCS) which was designed, manufactured, installed and commissioned by atg airports engineering team. Consideration at the design stage, to the changes that were planned to be implemented on the airfield infrastructure, ensured that there was a minimum requirement for recommissioning of the system once new services had been brought on line. However, the system, when installed was utilising the 'airfield copper ring' that had been in service for many years and was not best suited for modern ALCMS with respect to a redundancy perspective.

This project phase had a requirement to install a new fibre optic ring between each substation and the A centre. It was necessary for the installation team to pre-plan the route, provide new connection pits where required, before the cable could be positioned. Once completed the ALCMS communications had to be moved from copper to fibre which meant a small modification to the control cabinets at each location. Co-ordination of this work between the atg airports' engineering team and air traffic control was necessary so as to keep any down time to a minimum.

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