WESTRONICS ltd

FIRE | INTRUDER | ACCESS CONTROL | CCTV

Case Study

Project: Perimeter Detection System

Client: Westmill Solar Farm, Swindon, Wiltshire

The number of solar parks in Europe is increasing as the demand for renewable energy is rising. Many of these solar parks are in remote locations, so protecting them properly can be a challenge. WESTRONICS Ltd Fire & Security were tasked to ensure good visibility of intruders in the surveillance system, even at night or in adverse weather conditions.

The Brief

Design a reliable security solution to protect a 5 megawatt solar farm. It was required that WESTRONICS provide a system that would be monitored by our central monitoring station with key holder response in the form of security guards who would attend site upon activation of the alarm.

The System

WESTRONICS went to the drawing board to come up with a suitable solution that would give the client the reliable system they wanted. In the process major obstacles would come up including the fact that sited in the middle of a field there would be little to no light available for the cameras and that being a site of renewable energy, power consumption of the system would need to be kept to a minimum. WESTRONICS designed a comprehensive system that comprised of many layers of protection to ensure complete coverage whilst keeping the power budget to the lowest possible level.

The WESTRONICS Solution

Build a multi layered security system. The first layer of defence is a standard fence. Apart from deterring intruders this fence keeps out wildlife, to limit unwanted alarms. The second layer is an invisible virtual fence of microwave detection between the actual fence and the solar panels. The third layer consists of thermal imaging cameras, which are installed in strategic locations on four metre high posts, covering the entire area with minimum cameras and detectors.

Awards

IFSEC International SECURITY INDUSTRY AWARDS 2012

Westronics installation at Westmill Solar Farm, Swindon was a runner up in the 'Best Security Project or Security Installation' at the 2012 IFSEC Security Awards.

Triggering the alarm

If an intruder climbs over the fence and enters the area between the microwave transmitter and receiver a difference will be detected in the beam, which triggers an alarm. The alarm is sent to the corresponding Alarm Receiving Center (ARC). Simultaneously the thermal imaging cameras are automatically pointed towards the area where the intrusion was detected, proving a wide angle view of the area.

The thermal and visual footage from the thermal imaging camera systems is recorded by a standard hard disc recorder and simultaneously shared with the ARC through a secure broadband connection. The operators of the ARC can remotely operate the cameras to provide the best view of the possible intrusion, switching between day and thermal cameras as the weather and lighting conditions dictate. The ARC staff can warn off would be intruders with the on-site public address (PA) system which provides an audible deterrent to casual intruders. If appropriate, the ARC staff can also deploy a mobile patrol or report the incident to the police. The footage recorded on the digital video recorder can be passed on to the police as evidence.

Visual confirmation is crucial

Although the microwave intruder detection system can be excellent for intruder detection, it is also notoriously susceptible to unwanted alarms caused by large animals or certain weather conditions. For that reason a visual confirmation of alarms is crucial to provide a robust security solution. The thermal imaging cameras allow the ARC to accurately distinguish between an alarm triggered by animals or a true security breach by intruders, regardless of lighting and weather conditions.

WESTRONICS are able to provide a range of designs and systems to suit all solar and renewable sites from 1 megawatt to 20 megawatts.

If you are currently in the process of putting together a solar or renewable energy site or have an existing site that is not protected, talk to **WESTRONICS** and see how we can secure your site in the most cost effective way.

Customer's Comments

Chris Dean Managing Director of Blue Energy said: "I am delighted to report that the system has exceeded our expectations. The project took just eight weeks to complete and the result of the efforts of all involved has resulted in a facility which is capable of providing just under 5 megawatts of power for the National Grid whilst offsetting 3,000 tonnes of carbon dioxide. **WESTRONICS** ensuring that the security system was commissioned on time was vitally important as there needed to be a very high level of protection from the moment the solar farm went operational. We are extremely satisfied with the system which gives us peace of mind in knowing that operators at the Monitoring centre are able to watch over our highly valued asset 24/7 and that **WESTRONICS** have installed and continue to maintain a reliable security solution."