

# Line Guard - Case Study



## Line Guard Case Study

Trial Date:  
16.07.08

Location:  
Nottinghamshire

### About FM

FM Electronics are a UK based manufacturer and supplier of wireless alarm technology. Established in 1989 FM have identified new opportunities in the UK police and public markets gaining valuable partners who have helped to build FM into its current form.

We pride ourselves on our in house development team, ongoing software enhancement and experience in shaping bespoke solutions to fit difficult security requirements.

*'FM have maintained a Helpful and friendly contact throughout these trials which have proved to be highly valuable. Since trials started we have eliminated unauthorised access to the sub-station compound entirely. I was alerted to a cable theft in progress which was attended by my staff and BTP as a direct result of the SMS alert provided to me by the system'*

**M.P.**  
**Distribution**

*This Field Study is from a 2008 / 2009 trial ran in cooperation with the distribution department of Network Rails Rugby depot.*

## Trackside Cable Theft

FM Security were made aware of problems on a current network rail project and at other network rail sites during 2008. Cable was taken from electric rail expansion projects and also from the 'live track'. The repeated Theft or Attempted Theft of valuable copper cable, earthing strip and the effects of damage and disruption caused by these acts resulted in expensive remedial work, call outs and train delays.

Targeting earth and live cables is potentially life threatening to the thieves, customers and employees. Damage to signalling, earth, power and trackside cables can occur during a theft attempt and once a cable is broken engineers must then locate the problem before they can fix it.

## Site History

- Multiple cable thefts during 2008
- Earth cable repeatedly replaced then stolen again
- Cable troughs left opened with cable exposed
- Site left unsecure (locks broken / fences damaged)
- Multiple visits by police resulted in no arrests

Repeat raids on the same sites have resulted in continued damage and the loss of large, high value assets.

## Objectives

To address the above problems we must:

- Provide early detection of tamper to cable
- Report detailed location and alarm information
- Provide the report in an accessible format
- Enable staff to be dispatched to site immediately
- Invoke preventative action rather than reconstructive remedial work
- Maintain effective protection through system management and maintenance
- Deter entry using Effective signage

Manufactured and designed by



# Case Study - Cont'd



Line Guard Case Study

Trial Date:  
16.07.08

Location:  
Nottinghamshire

*The Field Study is from a 2008 / 2009 trial ran with the distribution department of Network Rail.*

## FM Security

FMS are a sister company to FM Electronics who deal with the installation and in-field servicing of alarm equipment. Their main areas of operation are building site's and empty or void property.

## Uses

Compounds  
Storage Yards  
Metal Roofs  
Sub-Station  
Warehouses  
Cable protection

## Test site, Track-Side

### Solution

FM were approached by NWR as there is currently no effective method of cable protection. Through on going product development and experience in the supply and maintenance of bespoke alarm systems, FM provide effective proven security into the most demanding of sectors. We were able to alter hardware and software to meet the requirements of the 'Line guard' environment whilst maintaining the flexibility of use inherent in the equipment. A key element in this is the close contact of manufacturer and installer which allows products to be tailored specifically. What resulted was a successful application of the cable alarm equipment in a NWR track side environment.

Test site from above



### Installation

FM supplied NWR Distribution with the alarm equipment who under guidance from FM installed it at the Test site. The 'Line Guard' provides alerts to NWR staff when cable manipulation is detected. The initial trials began on the 16th July 2008 with further installation achieved by the end of August. During the trial period several alarm messages were confirmed by NWR staff who responded along with the British Transport Police. One of these cases of the attempted theft was aborted and tools pertaining to the crime were recovered from site.

Cable trough trackside



### Conclusion

NWR now have a reliable alarm system option which has been effective in detecting and locating cable theft. Thefts on the site have been dramatically reduced and FM are happily now in a position to offer a major theft deterrent in the 'Line Guard' system.



Line Guard receiver



Communication via SMS on GSM networks wherever such networks exist.



Line Guard Sensor

**CONTACT Tel. 0845 602 6378 Email [sales@fmsecurity.co.uk](mailto:sales@fmsecurity.co.uk)**

Manufactured and designed by

