

## PERIMETER INTRUSION DETECTION SYSTEM (PIDS) USING FENCESENTRY DISTRIBUTED ACOUSTIC SENSING TECHNOLOGY



### **The Scenario**

The client was a leading global petrochemical company. They built a state-of-the-art refinery with the following attributes:

A production zone comprising hot bunker zones, the heat exchanger area, outer area and substation pump area of 18,800 square meters.

Non-production areas include office buildings, maintenance building, dining hall, activity rooms, exhibition area of 90,300 square meters/ Tank process include: boiler room, wax room, warehouse, to the pump area, fire pump, tank and pipe network technology with a total an area of 318,900 square meters.

### **Client Requirements**

The refinery is in a remote security critical location with 4km of perimeter to secure. The Bandweaver system was required to integrate into the existing CCTV network with alerts integrating seamlessly into the SCADA and security system.

The refinery was in an area of harsh environmental conditions (perennial wind levels of 4-5 with gusts regularly up to gale force 7/60kmh during winter months) and so the environmental correction algorithms of the FenceSentry will prove critical to the success of the system.

## What Did We Do?

Bandweaver supplied and commissioned a Perimeter Intrusion Detections System (PIDS) based on the FenceSentry DAS technology. The cable was attached directly to fence sections according to Bandweaver installation specifications. For large sections of the perimeter the cable was attached to a fence section on top of the wall

As mentioned one of the key issues with this particular site was the extreme environmental conditions experienced in the region. This made 2 elements critical.

Firstly, it was critical to ensure that the fence condition was well maintained and that all vegetation was cleared in the vicinity of the fence (at least 3-5m is recommended).

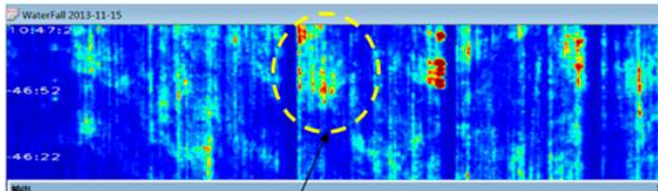
Secondly, it was also important to utilise the Bandweaver environmental correction algorithms which are included in the FenceSentry SSOS software algorithms. Below you can see an example of how effective the environmental correction algorithms were in this difficult environment.



Example of fence section with sensing cable installed >>

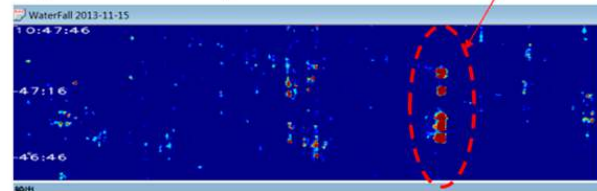


Without environmental correction algorithm >>



Vibration caused by high winds

With environmental correction algorithm >>



Real intrusion event

## Benefits to the Client

The Bandweaver FenceSentry provided security for the entire perimeter of the site. The system successfully integrated with video, audible siren, sound and light system. The project is the first large-scale petrol station perimeter security project in the region. The system proved that it could operate throughout the year in harsh weather conditions with gale force winds and very low temperatures.

The customer was able to reduce the number of security personnel for perimeter patrols and so simultaneously improved security while also reducing ongoing operational costs and improving the HSE profile.

The system was integrated into the clients security management system using Bandweaver's MaxView system integration software.

This provided full integration so that map views with precise location of intrusion was provided and integration of video streams and audio alarms.

