

APPLICATION BRIEF

Power Utility

ZAREBA[®]
PERIMETER SECURITY SYSTEMS

GUARD TOWER[®] MATRIX WIRE ARRAY PERIMETER SECURITY SYSTEM

Configuration: Wall Top Individual Wire Detection With Interface to Alarm Panel

About the Facility

An electrical substation in Colorado, US, with a perimeter of approximately 2,500 feet (762 m).

The perimeter consists of a 12-foot (3.7 m) high block wall.

Perimeter Security Challenges

- Protect from over-wall attacks by establishing a breach detection barrier system
- Adapt to varying step-down wall levels and 90-degree direction changes
- Grounding the wire array to the utility ground mat
- Perform in extreme temperatures (from 100 F degrees to -30 F degrees/ 38 C degrees to -34 C degrees)
- Integrate with existing alarm panel controls system

The Zareba Security Solution

The system consisted of two-foot Guard Tower sensor columns mounted to 45-degree support brackets attached to the outside of the block wall. The Guard Tower sensor column monitors the movement of four wires running parallel to the top of the block wall. This Guard Tower system used the Individual Wire Detection (IWD) version allowing for maximum capability in filtering nuisance alarms and alarm resolution down to the post and sensor level. The spacing between Guard Towers is 40 feet (12 m). As required in power utility applications the wire array was grounded to the site ground mat.



The Guard Tower System was selected because it could:

- Provide a high level of detection with the lowest possible nuisance alarm rate
- Adapt to both the vertical and horizontal changes of the perimeter wall
- Withstand harsh environmental conditions
- Identify alarm points within 40 feet (12 m) making future integration with CCTV extremely effective
- Identify the specific sensor and wire generating an alarm
- Be repaired and maintained by on-site staff
- Easily integrate with the on-site alarm panel
- Provide detection and climb barrier at five gate locations
- Be installed and operated at a low cost



The Guard Tower perimeter security system consisted of:

- 67 IWD Guard Tower sensor columns
- Five gate alarm points
- Redundant loop communication cable attached to wire array
- Head-end
 - Five alarm panel interface cards (integrated with control system)
 - Basic PC interface and software

