BACK TO THE FUTURE
– mitigating the challenges of vandalism

VANESSA SEALY-FISHER*
M.Sc PrChemSA, F.Corr.I.S.A. M.S.A.C.I

Director – Isinyithi Cathodic Protection (Pty) Ltd

Abstract

Perhaps one of the greatest concerns facing pipeline operators and cathodic protection engineers is the integrity of the cathodic protection (CP) system. As long as the CP system is working, there is confidence that the asset is protected.

In years past, impressed current cathodic protection (ICCP) system integrity was primarily tied to anode life, rectifier maintenance and the age of the system. Increasingly, theft and vandalism has become a significant threat to CP systems.

Various devices and strategies have been devised throughout the world, to protect CP components[1]. These include attempts at camouflage. Others have tried to dissuade vandals by changing hardware designs, such as using plastic test posts. There have been many attempts to alert authorities by means of alarms and micro labeling of copper cables. Rectifier enclosures have been strengthened using reinforced concrete. And there have even been attempts to use crane-lifted lids to try and prevent ingress by vandals. Each mitigation attempt has had varying degrees of success, which is often short-lived.

Improvements in pipeline coatings[2] and pipe laying techniques have opened another door to vandalism mitigation. Since the current demand has reduced dramatically, returning to the use of sacrificial anodes rather than ICCP systems has become a practical reality. Zinc rather than magnesium anodes have provided a possible answer to many of the vandalism challenges, without compromising on system life or efficacy.

Concealed installations can be readily located (and re-located) by means of sub-metre accuracy GPS instruments.

---

* Vanessa Sealy-Fisher has more than 20 years experience in pipeline corrosion protection.

[1] **Development Of Devices To Prevent Vandalism Over Cathodic Protection Components In Social Conflicted Regions**
J Canto, LM Martinez-dela-Escalera, AGF Rubi, H Rivera, JA Ascencio, L Martinez, L de Silva-Munoz; Corrosion 2011. NACE International. NACE-11305

[2] **Handbook of Cathodic Corrosion Protection**
Gulf Publishing Company. 3rd Edition. ISBN 0-88415-056-9
Editors: W von Baeckmann, W Schwenk, W Prinz