

CPMS: A state-of-the-art management tool for the efficient monitoring & maintenance of cathodic protection systems



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Engineered Solutions for Corrosion

CPMS: A state-of-the-art management tool for the efficient monitoring & maintenance of cathodic protection systems...

By Remedial Technology

Reinforced concrete structures susceptible to chloride induced corrosion can be successfully protected from corrosion by impressed current cathodic protection (CP). This is a proven technology which can provide long-term corrosion protection for bridges, wharfs and other structures situated in harsh marine environments. However, one of the main issues associated with the long-term performance of cathodic protection is the failure to establish a simplistic and efficient monitoring and maintenance program for the CP systems.

Remedial Technology has developed Cathodic Protection Management System (CPMS), which is a practical tool for the monitoring and maintenance of multiple CP systems.

The primary features of CPMS include

- ☐ Simple and secure access for approved users through a password protected website.
- ☐ A permanent on line database for the CP systems incorporating all key CP data which is required for long-term CP system operation and maintenance of the structures.
- ☐ Live monitoring which ensures continuous delivery of CP current to the structures at all times. CPMS incorporates a portal for 24/7 live monitoring of the CP systems. This monitoring allows real time verification of the corrosion protection of the structures.
- ☐ An online yearly maintenance program for all structures showing up -to-date work progress and recommendations for future maintenance work for planning and budgeting purposes.
- ☐ All historical CP system data is consolidated onto one platform. This allows full transparency related to the status of the systems, information sharing and easy transition of responsibilities between successive asset managers.

The web-based management system offers a simple, efficient and reliable platform for the maintenance and monitoring of multiple CP systems. The system offers a live monitoring portal which allows transmission of real time data from the cathodic protection systems to the user s PC using M2M technology. In addition, CPMS allows permanent access to all historical performance data, construction drawings, operational manuals and maintenance records for the CP systems.

CPMS allows for the immediate identification of any issues which will affect the corrosion protection of a reinforced concrete structure. Any issues are promptly identified and rectified within the appropriate time. One of the unique benefits of CPMS is the elimination of duplication of reports and documents which are irrelevant (often slow down and clutter any decision-making process). With CPMS, the asset owner is directed to only the key important facts about the CP system and the actions required, and this makes long-term maintenance planning simple, achievable and clear.

CPMS is now utilised by multiple asset owners for the monitoring and maintenance of over 35 reinforced concrete and steel structures located along Australia's east coast.

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CPMS

Cathodic Protection Management System



GENERAL GLOBAL INFORMATION

LIVE MONITORING

MONITORING AND MAINTENANCE PLAN



Structure 1



Structure 2



Structure 3



Structure 4



Structure 5



Structure 6

Status

Fully Operational

Status

Fully Operational

Status

Fully Operational

Status

T/R Unit Upgrade
Required

Status

Fully Operational

Status

Fully Operational

SYSTEM DATA

SYSTEM DATA

SYSTEM DATA

SYSTEM DATA

SYSTEM DATA

SYSTEM DATA

MONITORING DATA

MONITORING DATA

MONITORING DATA

MONITORING DATA

MONITORING DATA

MONITORING DATA

Image 1 above: An example of the main page of CPMS showing the status of six (6) operating CP systems





Image 2, 3 and 4 above: Reinforced concrete bridges, protected by cathodic protection systems and monitored by CPMS.



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Expert Engineered Corrosion Solutions for Infrastructure

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