



CORROSION CONTROL



WEB BASED REMOTE MONITORING



CATHODIC PROTECTION

Cathodic On Line (CCOL)

Cathodic On Line (CCOL) is a service developed and deployed in Italy by Technosystem of Milan in partnership with Italgas. Italgas delivers to consumers some 40% of Italy's natural gas and have installed over 6000 remote CCOL measuring points across their pipeline (cathodically protected) network.

BAC Corrosion Control Limited has developed a partnership with Technosystem to provide the service within the United Kingdom and other world markets.

The system allows for various levels of cathodic protection data monitoring, logging, graphing and alarm warnings utilising the cellular network short messaging system (SMS) and the internet for display, monitoring and data manipulation.

Both (or either) current and potential can be monitored.

Both BAC Corrosion Control Limited and the Customer can have varying levels of access and control of the data and warning systems allowing either total or partial control to BAC Corrosion Control Limited as the service provider or the Customer, as preferred.

Through the Service Operations Centre, constant monitoring of the systems is assured and notification of problems automatically dispatched through email ensuring around the clock coverage.

Simple Installation

Installation is simplicity itself with a requirement for the installation of a small data logger and GSM modem unit complete with battery packs at the monitoring location. 3 cable connections are all that are required, if monitoring both current and potential.

BAC Corrosion Control can either take responsibility for the installation of the units or the Customer's own staff can easily be trained to carry out the work.



SATcell®

Logging Options

There are 2 options for the monitoring unit with the base unit being the SATcell® which records the minimum, maximum and average data over a 24 hour period and displays this data the following day or alternatively there is the SATcellLog® which is programmable to record additional data according to customers requirements over a 24 hour (or longer) period allowing monitoring at possible interference points such as D.C. rail crossings or other pipelines.

The increased recording options are either data sampling at a rate of 1 second, which is then transmitted every minute of each day, giving minimum, average and maximum values or similar data recorded and transmitted every 15 minutes over a period of up to a month.

Monitoring

Access to the internet is all that is required to monitor the data being recorded from the SATcell® or SATcellLog® units.

From the website, data from the units can be monitored for minimum, average, maximum values, standard deviation, out of limit value (pre-set) and out of limit time to be viewed either as data or as graphs - all in real time whilst on line.



Data can also be exported as an ASCII file to other programs such as spreadsheets or word processing packages for offline review and reporting.

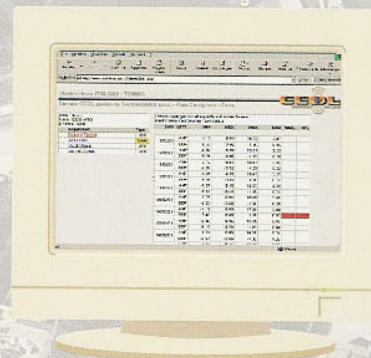
For each operating unit data can be uploaded to the website which could include simple instructions on how to get to the site or information from the last physical visit perhaps.

Data Management

Data is archived each year and the Customer is provided with a copy of this data on a CD and additionally the data is stored in our own archives for a further 4 years.

Alarms

If an operating unit goes into alarm (alarms are pre-set by the Customer and would normally be a potential criterion) then an email, to a specified address, is generated as soon as the data has been sent by the operating unit to the control room.



Package Supplied

The CCOL system is only available to rent, which reduces capital expenditure and provides security for future updates. The rental package includes: -

Rental of remotely controlled battery powered data loggers.

Telephone costs, including fees, government taxes, GSM card activation and re-charging costs and roaming costs.

Partial insurance to include:

- o Apparatus damage from lightning strikes or similar.
- o Manufacturing defects
- o Water, fire and atmospheric damage on properly installed equipment.

Replacement equipment, for self installation (or by BAC at agreed rates) would be supplied at no cost as long as part or all of the original damaged equipment is returned to BAC.

The insurance necessarily excludes:

- o Acts of vandalism, tampering, accidental damage by external forces and other mechanical damages.
- o Total or partial theft.
- o Incorrect installation by other than BAC Corrosion Control.
- o All necessary hardware and / or software upgrades.

5-day working week Call Centre service to obtain advice on the use of the Internet interface, help on data analysis or service call for damage or failure of installed devices.

Completely automated data collection service and relevant data distribution via the Internet platform, 24 hours a day.

Supply of substitution batteries every 24 months (or when batteries run down).

The Service also includes the following measurables:

- o Transmittal of daily-recorded readings in compressed format, every two days over a complete year.
- o Transmitting upon request, for SATCellLog® installations only (If installed), in either of the chosen formats.

Data archiving.

Graphical analysis tools, with the possibility of presenting 5 different graphs on the collected data. Alarm e-mails to indicate possible out of threshold parameters, which can be pre-set and modified on the CCOL website

Data search engine for specific selection and print outs of various selected fields (such as: out of limit values, out of limit time, etc). Transmitted data from the internet can be presented on digital maps.

Total integration with any GIS system through standard export format.

The potential to install and integrate with "Teltec" and "Cover" systems for the remote control of the cathodic power supplies.

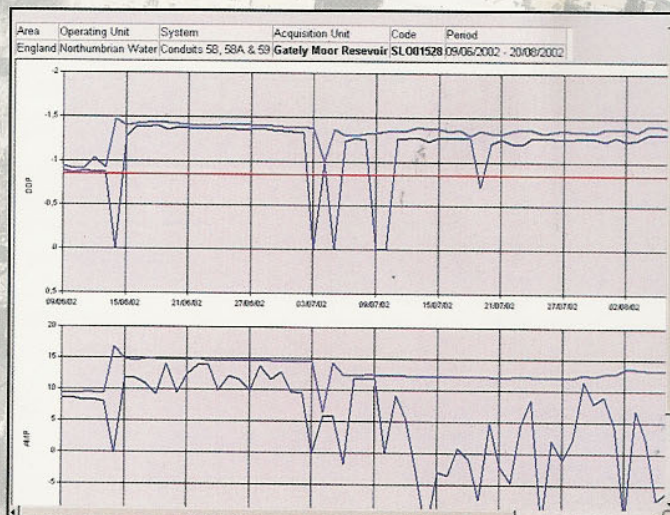
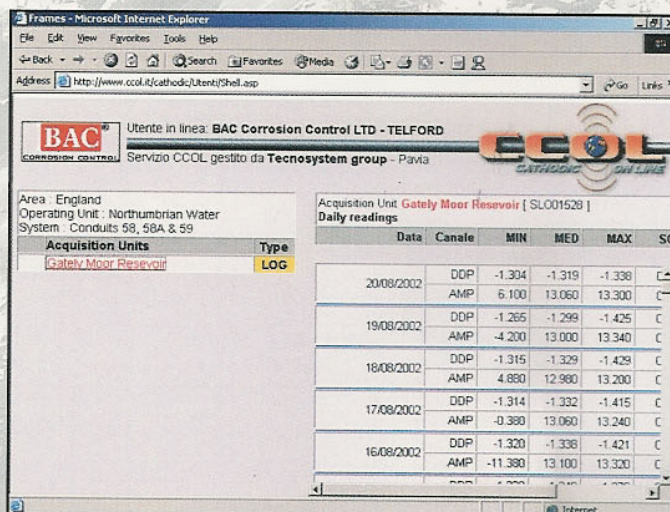
The rental price includes:

- packaging and shipping to site
- cable holder
- acquisition unit programming
- activation on CCOL Internet data base
- contract with telephone company, including roaming
- apparatus cabling

The rental price excludes

- All site works such as installation, equipment replacement, battery changing, etc. These can be provided at an agreed contract daily rate or completed in-house by the customer's staff.
- Replacement due to total or partial theft, vandalism or any other case where it is not possible to return the damaged (whole or part) equipment to BAC Corrosion Control.
- Additional racks or enclosures for device housing if not feasible in existing equipment.
- 0-100 mV current shunts, for Ampere measurement which will be charged extra

All rental equipment remains the property of BAC Corrosion Control Limited.





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