

# Close Interval Potential Survey

## Maintaining the Integrity of Cathodic Protection Systems



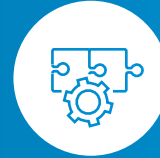
Early detection of corrosion risk areas and poor CP performance



Prioritization of maintenance and remediation activities for optimization



Identification of stray current, anode depletion, coating failures, etc.



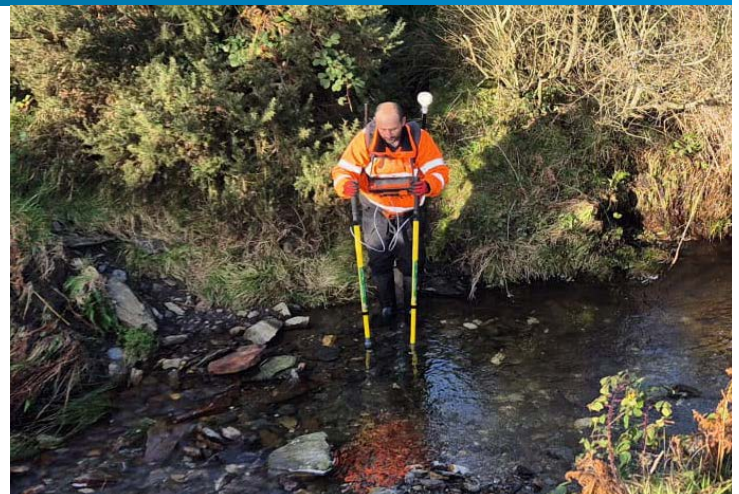
Integration with other survey methods for a complete integrity assessment

**A Close Interval Potential Survey (CIPS) is a specialized integrity assessment technique used to evaluate the performance of Cathodic Protection (CP) systems on buried pipelines. This high-resolution survey provides crucial data on potential variations along the pipeline, identifying areas of insufficient protection, coating degradation, and possible corrosion risks.**

**CIPS is vital in proactive pipeline integrity management, reducing the risk of failures, leaks, and costly repairs. Our expert team utilizes advanced equipment and GPS mapping to deliver accurate, high-quality results, helping pipeline operators optimize their CP systems and extend asset lifespan.**

During a CIPS, technicians measure pipe-to-soil potentials at closely spaced intervals while following the pipeline route. These readings, taken under both "ON" and "OFF" CP conditions, help determine the actual polarization levels and detect any electrical interference or shielding effects. A reference electrode placed on the soil surface, connected to a data logger, records the pipeline's potential at regular intervals. This process detects anomalies in protection levels, which may indicate coating degradation or interference issues. The collected data is analyzed to ensure compliance with industry standards such as NACE SP0169 or ISO15589 and other regulatory requirements.

This information enables targeted maintenance actions, such as adjusting CP system settings, repairing coating damage, or implementing additional protective measures. Compared with other inspection techniques like DCVG or LSM, CIPS data contributes to comprehensive integrity assessments, ensuring regulatory compliance and extending the asset's operational lifespan.



## Benefits

- **High sensitivity:** Detects minor CP anomalies before they get the chance to cause significant corrosion.
- **Comprehensive coverage:** Provides a complete profile of CP effectiveness along the entire pipeline length, taking into account all variations in current attenuation.
- **Data-driven decisions:** Supports maintenance strategies with precise, actionable insights, especially for repeat monitoring.
- **Regulatory compliance:** Meets industry standards for corrosion protection assessments such as NACE SP0502, DOT 49 CFR Part 192 & 195, NACE SP0169, and ISO15589.
- **Integration with other methods:** Can be combined with Direct Current Voltage Gradient (DCVG) and GIS mapping for a comprehensive pipeline integrity assessment, e.g., as part of the NIPA service or for single-pass inspections.

Our expert CIPS surveys provide a comprehensive understanding of your pipeline's CP performance, ensuring safety, regulatory compliance, and long-term operational reliability to keep critical infrastructure running smoothly.

## Survey Types

Survey Type	Inspection Type	Use Case
CIPS / CIS	Standard survey	Evaluate the level of Cathodic Protection (CP)
CIPS + DCVG	Combined CIPS and DCVG survey	Evaluate CP and coating in one pass
CIPS + 2 channel DCVG	Add CP evaluation to two channel DCVG	Also called Side Drain Survey
Double impedance CIPS	CP reading taken at both input impedances	Calculate the true polarized potential – very useful in high-resistivity soils
Double impedance CIPS + DCVG	Double impedance CP survey with DCVG	Add coating evaluation to a true potential survey
Parallel CIPS	Evaluate CP on two parallel, electrically connected pipelines	Perform two surveys with one instrument
Double impedance CIPS + 2 channel DCVG	Add two DCVG readings to double impedance CP survey	Calculate the true potential and confirm defect location in areas of stray current

## Technical Specifications

Range	CIPS +/- 5 V DC, (Combined DCVG: +/- 500mV DC)
Accuracy	0.1 mV DC for all readings
Memory Capacity	4GB (expandable)
Impedance	25MΩ or 200MΩ (Combined DCVG: 15MΩ)
AC Rejection	-90dB@60Hz
IP Rating	IP67
Battery	Li Ion 33Whr – 24hr run time
GPS	Integrated WAAS GPS, RTK Compatible
Distance / Day	~10km (terrain dependent)

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