Corrosion Under Pipe Supports (CUPS) is a growing problem - a particular threat to the integrity of ageing pipework.

Poor pipework integrity can lead to incidents impacting safety and production. These incidents can become very costly. Process Industry facilities with miles of pipework must continue to strive for, and improve, safety, environmental, production and cost goals at a time when many asset are extending their period of operation beyond their original design life.

The Energy Institute (EI), in conjunction with ABB, have produced guidance for managing CUPS. Complying with this guidance is expected to become an area of focus for the industry.

The greatest concern is that corrosion develops in areas that are difficult to inspect so this could go undetected. The design of the support, its material of construction, and a number of other factors affect the type and rate of deterioration. The main contributory factors include:

- Moisture (rain, fire water, deluge testing etc.) and contaminants (e.g. chlorides from sea water)
- The pipe operating temperature
- Thermal expansion and contraction of the piping - this can damage the coating by fretting, or cause it to crack and disbond
- Internal and external corrosion
- Inability to inspect / maintain
- Pipe support design
- Breakdown of protective coating

What we offer

ABB offers a 3 stage approach to managing CUPS, involving a combination of inspections, assessments, remediation and repair.

Assess

Review of the current condition of piping systems and an assessment of the risk posed by CUPS

Plan

- Remediation planning - the objective is to plan and undertake the work effectively and safely. The outcome is to establish the known condition of piping systems and to plan necessary actions
- Develop an effective inspection and maintenance strategy for managing CUPS into the future

Execute

- Implement an effective and safe remediation strategy for piping affected by CUPS, including both on-line and off-line remediation
- We can support by implementing complete programmes of remediation or carrying out discrete services such as inspection or design

All the advice that we give is in line with the EI guidance.
Benefits
- Improved plant safety and reliability through minimising pipework failures
- Long term cost benefits through efficient work planning
- Pipework life extended, therefore potential plant life extension
- Minimised loss of production, by carrying out remediation online
- Costed improvement plan for budgeting purposes
- Increased confidence in understanding the risks presented by CUPS and in the pipework integrity
- Demonstrable management of CUPS issues

Why ABB?
ABB has many years experience in the design, inspection and maintenance of pipework, based on this experience, the EI commissioned us to produce their industry guidance.

We have extensive knowledge of all aspects necessary to manage corrosion under pipe supports. We have inspection guidelines, working procedures, risk assessment processes, estimating methods, data management expertise etc. as well as the project management and piping functional expertise.

Our team of specialists with operational heritage will use their experience to make pragmatic technical judgements and offer solutions that are cost effective.

Our experience of such programmes will enable you to get started on this significant area with confidence. ABB can be with you each step of the way to ensure the benefits are realised.