



The Coal  
Authority

## Electrochemical Treatment Plants for Mine Water Treatment.

Open early engagement - This means that a procurement idea is currently active; it is in the early stage of development and judging interest from potential engineering/chemical companies. - This notice is not a call for competition

The Coal Authority was established by Parliament to undertake specific statutory duties, set out in the Coal Industry Act 1994, associated with licensing coal mining operations; managing property and the historic legacy arising from the ownership of the coal reserves and underground workings; settling subsidence damage claims not falling on coal mine operators and providing access to coal mining information.

The Coal Authority operate over 75 minewater treatment schemes that remove contaminating metals from mine water prior to the treated water being discharge into a receiving watercourse.

Schemes range from complex process engineering plants, through pumped wet wells and boreholes/mineshfts, to totally natural (passive) schemes without a power source.

A number of sites require the addition of pH correcting or oxidising reagents. Flow rates range from circa 5 litres/sec to 400 litres/sec. A standard pumped treatment scheme utilizes 32 digital inputs, 8 analogue inputs and 8 digital outputs. The majority of treatment schemes comprise of aeration cascades, settlement ponds and reed beds. All schemes are subject to regulatory consents and licenses.

The mine water can be net acidic or net alkaline and contain a variety of dissolved anions and metals cations. The salinity of mine water can also vary dependent on the site.

The Coal Authority is now considering the potential of electrochemical treatment plants in treating mine water. Selective precipitation of metals dissolved in mine water would provide the Coal Authority with options for a hazardous waste

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management strategy and disposal, as well as the potential to recover metals of commercial interest. The fate of sulphates, carbonates and chlorides in the electrochemical process would also need to be considered.

Areas of interest of the Coal Authority include:

- Sample collection and preparation
- Laboratory testing (off and on site)
- Pilot testing (off and on site)
- Analytical Capabilities
- Plant conceptual design
- Whole life costs
- Electrocoagulation
- Methodology of removing solids deposited on electrodes (mechanical or physical or chemical)

We would like to invite interested companies to meet with us at our Mansfield office during September / October 2018 to better understand our requirements and offer suggestions on how we might fulfil our objectives through a future tender process.

Once the Coal Authority has assessed interest, it will advise on if meetings are to be conducted on an individual basis or as a group with multiple companies present.

If you have any queries please express your interest by contacting [peterkobryn@coal.gov.uk](mailto:peterkobryn@coal.gov.uk) no later than 18 September 2018

Participants should note that we reserve the right to use any information shared within this market engagement to develop a mature service specification for future procurement purposes. Any costs incurred by participating in this exercise must be borne by the participating organisations.

Following this exercise we shall determine if and how we will approach the market to secure the services.

Please note that any future procurement will be subject to a separate advertisement