Electrostatic water treatment fights scale

An electrostatic water treatment unit for use in any water circulating system where "scale" is a phenomena is now available from Scalemaster Adlam Private Ltd, of Secunderabad, India.

Water when subjected to electrostatic field changes the characteristics of scale-forming compounds and throws off their equilibrium. This change in water scale-forming compounds incapacitates them from causing or forming scale. The compounds are converted to colloidal forms which are kept in suspension. These colloids do not even adhere to metal surfaces.

These colloids or the accumulation of TDS gets out of the boilers during blowdowns. In circulating systems, they tend to settle down at the low pressure zone in the tanks which need to be flushed whenever the conductivity limit exceeds 2500. This occurs once a month or so depending on the raw water condition.

The most important feature involved is producing the required electrostatic charge. Experiments have been done with magnets, combination of metals and electricity. Only the use of electricity in creating the electrostatic field has proved to be successful. Understandable so since it is the most powerful energy of the three. Secondly, the power required has to be synchronized from the power pack to the electrode which is housed inside the water treatment chamber. If the electrostatic field if not properly synchronized with the capacity, water condition, flow rate, and pipe dimension, the whole exercise will be fruitless.

The Scalemaster unit is comprised of two parts: the water treatment unit and the power control unit. The water treatment unit is a hollow vertical cylinder with a teflon fabric coated aluminum shaft which forms the electrode. The power control unit is mounted on the unit itself to regulate the voltage required for the electrode.