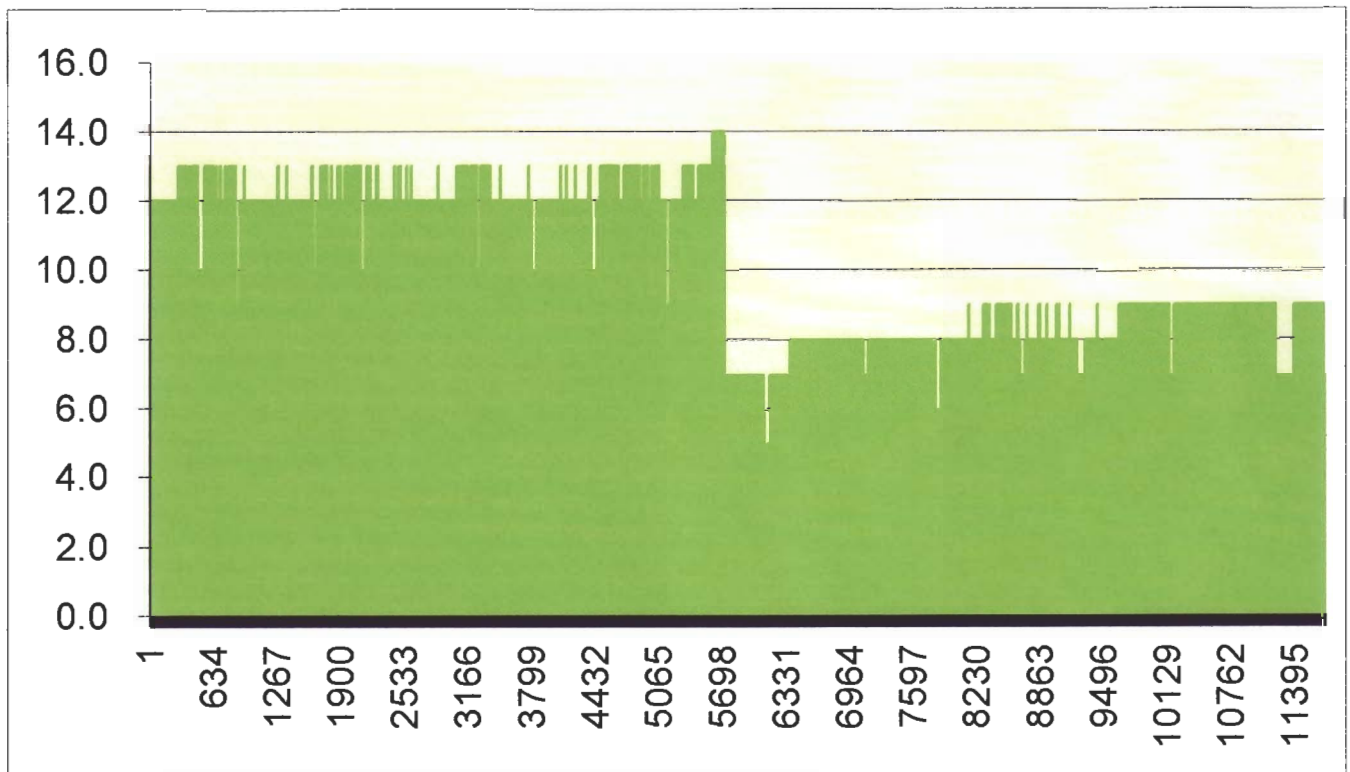


Evaluation of EnviroStart Operation on Pump Nr 3 at Sibelco, West Bromwich

We have been asked to provide a review of the detail data logged by Sibelco personnel of the operational results obtained through using EnviroStart on Nr 3 water pump at the WBB, West Bromwich site.

The 400-TPMEC-22 EnviroStart unit was fitted to the pump motor and following a short period of “settling” Sibelco personnel installed a calibrated SPC Data Logger and took measurements over a period of sixteen days, a period with the EnviroStart optimisation enabled and a period with it disabled. The results of the test are as shown in the chart below.



For the sake of clarity of information shown the “off periods” have been eliminated to make the data flow contiguous, hence the absence of “shut off periods” through the data file. This elimination of “off-periods” has also allowed the savings to be calculated more easily and more accurately as we are not looking at “mean” consumption in any other time than those when the unit was in operation. (This is not carried through to the “payback” details shown below where the overall data file was used and a mean saving throughout the sixteen days of 23% was applied – this reflected the 20hr/day 230 days/yr expected operational time for this pump).

The EnviroStart was switched into optimisation at data point 5853 and demonstrated a shift in mean consumption of 12.8A to 8,7A. (These mean current levels were defined excluding the periods when the unit was switched off so as to provide a true A → B comparison).

The data above indicates a real saving of 32%. This level of saving is consistent with the loading experienced on the system during the time of the tests and would be reflected on any other pump or motor of similar loading to which the EnviroStart was fitted.

It is clear from the data as presented that EnviroStart has contributed significantly to reducing the energy consumption of the motor over the period of the test.

Payback Assumptions:

Based on the logged data throughout the whole period of the test the mean savings given will be ≥ 23 %. Based on given energy costs of £0.0345p/kWh and the current price of an EnviroStart 400-TPMEC-22 of £550/unit the payback period calculated will be ≤ 1.63 years.

30th June 2001