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Award-winning paper in 2015

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On Friday 7 October 2016, ICE president John Armitt presented an award to the following paper published in *Journal of Environmental Engineering and Science* in 2015.

Thomas Telford Premium Prize

The Thomas Telford Premium Prize, presented for the best paper published in *Journal of Environmental Engineering and Science*, was awarded to Schmalwieser *et al*. (2015).

Abstract

Information about the capability and performance of ultraviolet (UV) disinfection plants for drinking water is mainly available from lab-scale evaluations or prototype testing. Information about these during operation is rare. In this paper, controlled onsite measurements over a period of 10 years are presented. Measurements were taken in a UV disinfection plant equipped with amalgam low-pressure, high-output lamps every 2 months over the whole period. From these, information about lamp ageing, emittance in dependence on water temperature and differences of emittance within one type of lamp was gained. The decrease of emittance follows an exponential decay. After 700 h of operation, the UV emission is reduced by 10% compared to a new lamp, after 1800 h by 20% and by 30% after 3200 h. Emittance of new lamps may differ by 10%. Further, the influence of water temperature on the UV emission of the lamps was estimated as 0·5%/°C. Our results (not statistically significant) suggest that on-off switches and low water temperature may shorten the lifetime of lamps. A comparison onsite has shown that measurements of UV irradiance by all types of certified reference radiometers according to ÖNORM M5873-1 agree within ±2·0%.

REFERENCE

Schmalwieser AW, Cabaj A, Hirschmann G and Sommer R (2015) Ten-year monitoring of an ultraviolet disinfection plants for drinking water. *Journal of Environmental Engineering and Science* **10(2)**: 34–39, http://dx.doi.org/10.1680/jees.14.00014.