

Interactive comment on “Understanding and managing large sensor networks” by D. D. Ediriweera and I. W. Marshall

Anonymous Referee #1

Received and published: 22 April 2010

The authors have investigated the integrity of the data collected by a large set of sensors (ca. 450 sensors, for 3.5 years data every 15 minutes). The (pressure and flow) sensors were placed in a drinking water distribution system (DWDS). However, this drinking water system does not play a role in the analysis at all. Therefore, I doubt if it is of interest for DWES.

A substantial part of the data was missing (8-32%). The authors found that a part of the missing data could be explained by non-specified maintenance, but the largest part could not. Zero and negative pressures and long duration of zero flows were regarded as suspect. There were no explanations for the suspect data. Possible explanations that were considered were related to the sensors and the communication between sensors and the data collectors, not to the drinking water system. Possible explanations

C39

such as rain fall and maintenance were not statistically analyzed.

The recommendations for sensor networks are 1) keeping error logs; 2) monitor battery performance; 3) use batteries that can be exchanged more easily; 4) have sensors communication (over the GSM network) at non-standard times, i.e. at 3 minutes past the hour instead of exactly at the hour and quarter past the hour. These recommendations are not very surprising and do not follow from the analysis of the missing and suspect data.

The English of the authors is not very good. The text would really improve with better use of articles and punctuation. The total number of failures in tables 1 and 2 are not equal. The failure points in Figure 1 are not discussed in the text; this is a shame. Figures 2 and 4 can be combined; figures 8 and 9 can be combined.

Interactive comment on Drink. Water Eng. Sci. Discuss., 3, 149, 2010.