



Shewhart and EWMA Control Charts in the analysis of water consumption in buildings

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Statistical Process Control Charts (SPC) are effective tools for investigation, analysis and inference in all kinds of events in the several knowledge areas. Their applications can be understood as tools to measure, monitor, control, and improve quality. The main purpose of this article is to present partial results of the use of exponentially-weighted moving average charts (EWMA) in monitoring variables related to potable water consumption in buildings. The chart was applied to real data from lavatory taps of a building. Two distinct situations have been assessed: the exchange of ordinary equipment for water-saving ones and possible occurrence of equipment problems. The EWMA and combined Shewhart-EWMA charts indicate a decrease in the water consumption level, right after the equipment exchange, while the Shewhart and combined Shewhart-EWMA charts clearly indicate equipment failure and possible leaks.

Keywords: EWMA Chart; Shewhart chart, monitoring; water consumption.