

## Abstract

Power losses are a major problem in the electricity distribution sector, mostly in developing countries. There is a need to assuring a continuous monitoring of distribution networks for maintaining the losses within acceptable levels. This can help power companies in developing countries not only to minimize commercial loss but also to optimize their profitability. Moreover, a continuous monitoring guarantee a better power quality of power delivered as well as distribution system efficiency and reliability. This paper establishes an alternative methodology for Technical Losses (TL) and NonTechnical Losses (NTL) analysis per feeder. The monitoring process relies on Automated Control Chart with a statistical approach, which allows detecting any deviation in the energy consumption whenever the consumption data surpass admissible deviation limits set by control parameters. The analyses performed in this paper make use of time series data measured on feeders of a real power supply located at Rutsuru in the DRC.