PDAM Surabaya intends to improve their pump distribution machines’s productivity and efficiency to comply with clean water demand of people in their service area. Since today, PDAM Surabaya are only able to fulfil 67% of the total demand in Surabaya. Thus, the need of a proper maintenance is very important so that the systems, compound from various machinery and facility, can work appropriately. The company needs to measure how far they are able to reach their maintenance effectivity by carry out a quantitative measurement to their performance indicator. One of the most popular approaches is by using Overall Equipment Effectiveness (OEE). OEE is formulated of three components, which are availability, performance, and quality; it is used to determine various types of loss in productivity (Six Big Losses), such as breakdown, setup and adjustment, idling and minor storage, reduced speed, quality defect and rework. For PDAM particularly, the application of OEE in this research will lead to identification, cause-effect analysis and elimination of what causing the low performance of a certain pump distribution machine, which finally will lead to problem solving by evaluating solution alternatives.

Keywords: performance, maintenance, OEE, uptime, Six Big Losses