

ABSTRACT

The water collection plant belonging to the water management board Sumak-Yaku is located on the border of San Pablo Lake, it's in Araque community in the province of Imbabura, it consists of three stations, at the first station is the side where the water is taken and pumped with a motor-pump group 400 meters to the second station where it is stored in two tanks, from where some of the liquid is distributed by gravity to nearby communities and rest of the liquid is pumped 400 meters, to the third station where there are two tanks (twin tank), from these tanks the water is distributed by gravity to the other communities.

In the first section of pipe before the water arrive to the tanks of the second station, place a leak detection pressure drop device, it starts the scan job with the order of the main system control, it indicated that it has started pumping, and it indicated that it has finished pumping. During detection, the device takes pressure data and compared with the control set point selected by the user, if the data is less to the set point during than 15 seconds, it activates a flag (alarm) with which to take the respective actions. The process is the same for the second section, in the third station there is no electricity so I implemented a solar power generation to power the devices.

All this to give good service to 9300 users of 8 communities without contamination or economic losses, so when making the detection of leakage is high social impact